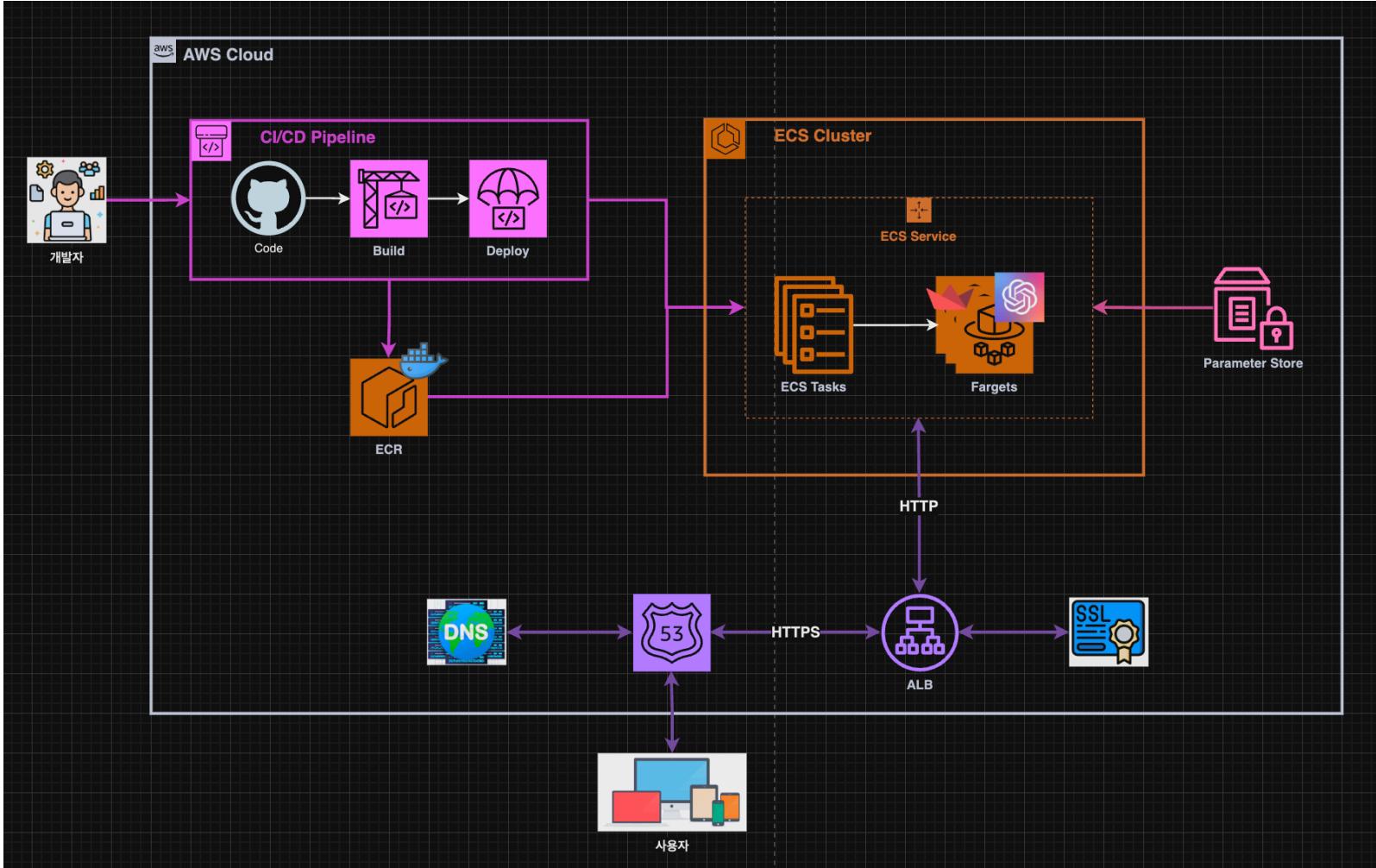
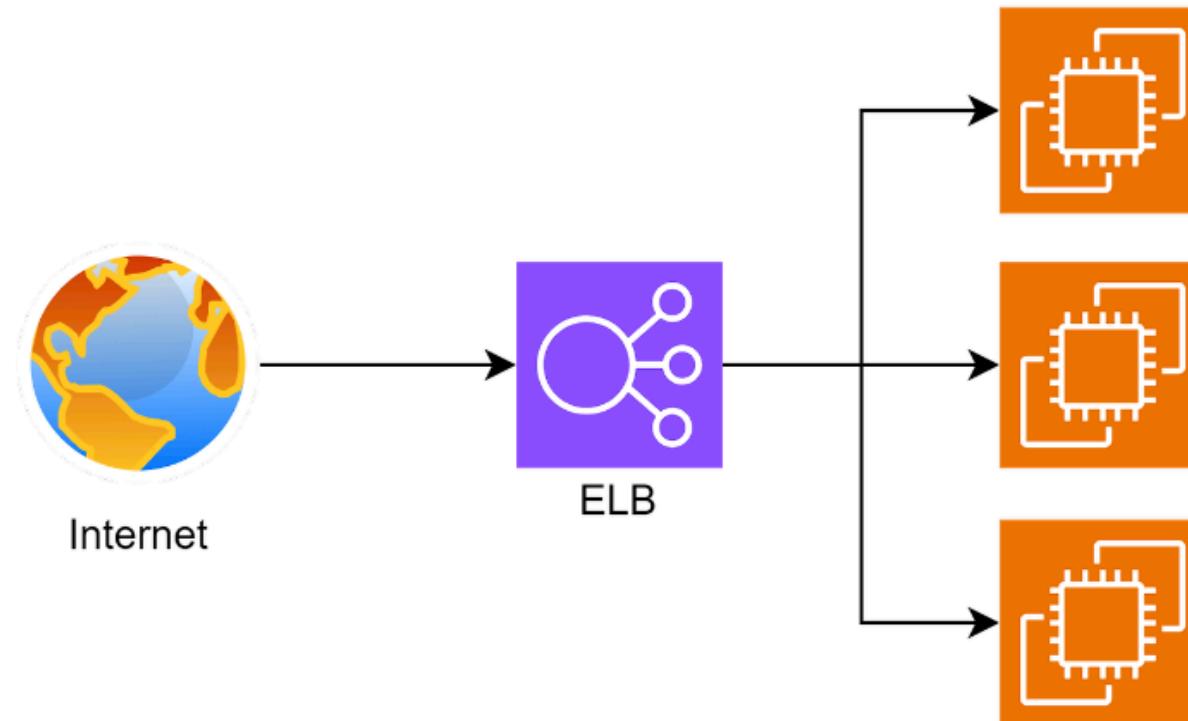


# Architecture



# ELB (Elastic Load Balancing)

- ELB는 하나 이상의 가용 영역(AZ)에 있는 애플리케이션에게 들어오는 트래픽을 자동으로 분산한다.
- ELB는 AWS의 로드 밸런스 종류 전체를 통틀어 칭하는 말이다.

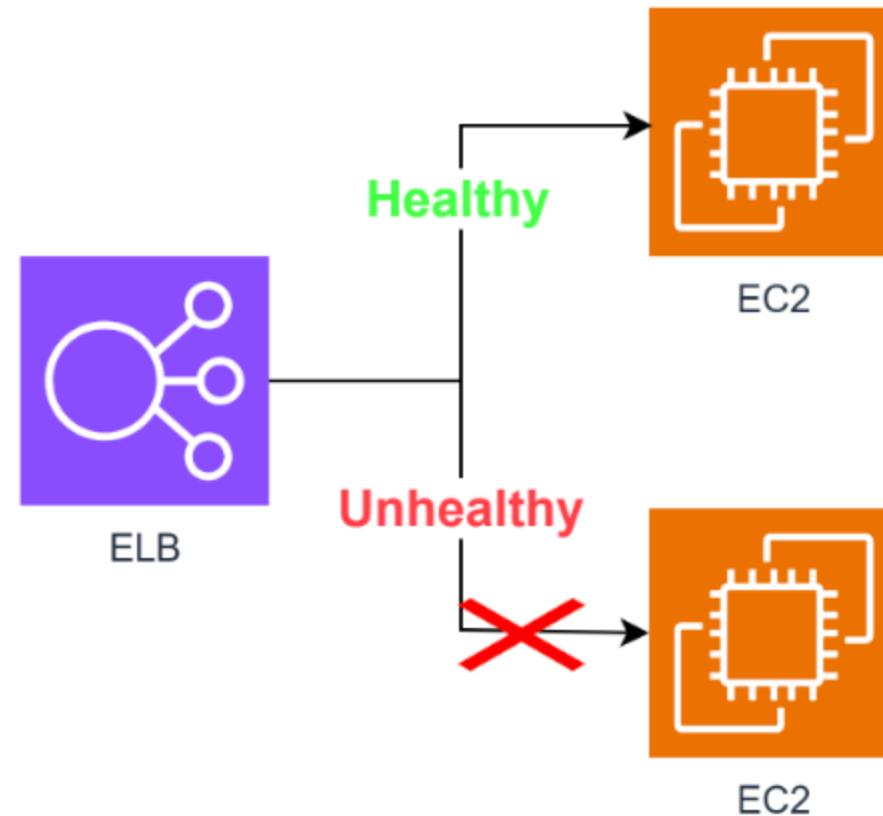


## ELB 의 특징/기능

- 애플리케이션의 가용성(High Availability)과 확장성(Auto Scaling)을 향상시킨다.
- ELB는 EC2뿐만 아니라 ECS, Lambda 등 다양한 서비스와 연계하여 트래픽 부하를 분배 할 수 있다.
- [Slow Start Configuration, 느린 시작 구성]: 새로 시작된 서버를 위해 천천히 트래픽을 부하
  - ALB와 NLB만 지원한다
  - Slow Start Configuration은 새로운 인스턴스가 부하가 걸리기 전에 천천히 트래픽을 수신하게 만드는 기능이다.
  - 이 방식은 서버가 처음부터 갑자기 모든 트래픽을 받는 것을 방지하고, 서버가 정상적으로 작동할 수 있도록 점진적으로 트래픽을 분배한다.

## Health Checks

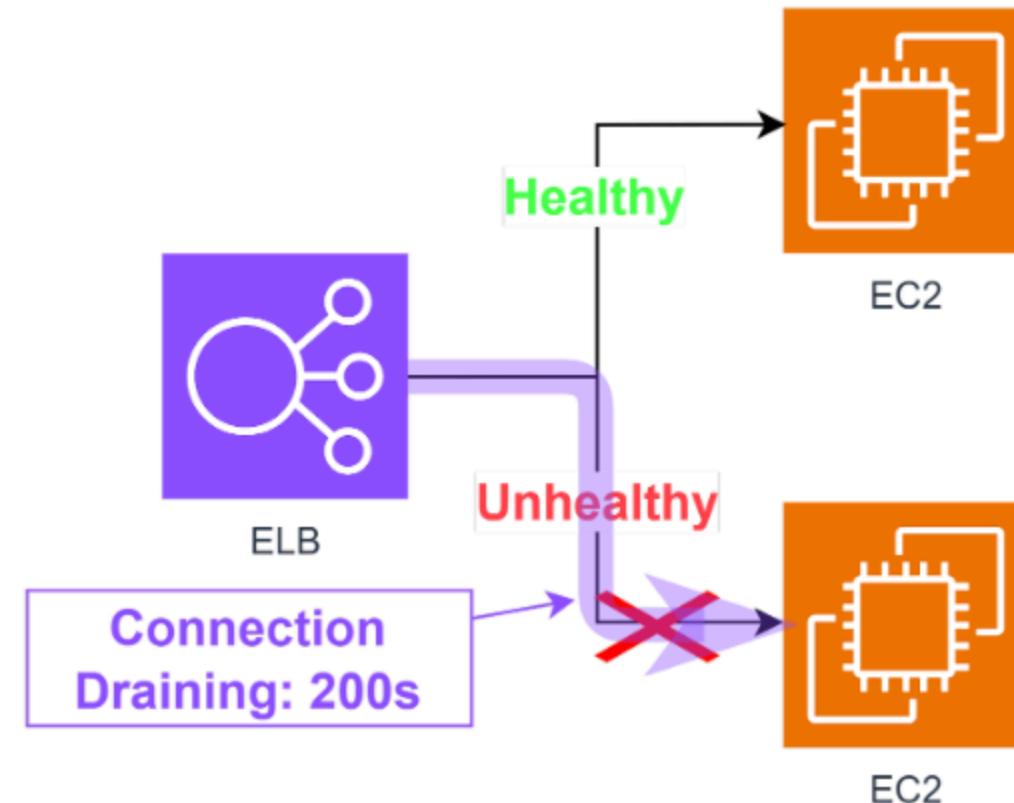
- 서버의 상태를 정기적으로 확인하고, 문제가 있을 경우 트래픽을 해당 서버로 전송하지 않는다.



## Connection Draining

- Unhealthy 됐을 때 지정된 시간만큼 연결을 기다려준다
- 기본(Default)으로 켜져있다. ALB(와 CLB)만 지원한다
- 서버에 오류가 발생했을 때, 다른 서버에 트래픽을 이동시키기 전에 기존 연결을 기다려주는 시간

- 예시) Connection Draining을 200초로 설정하면, 서버에 오류 생긴 후 200초 동안 그나마 기존 연결을 기다려주고, 다른 서버에 트래픽을 이동한다.



# ELB 로드 밸런서

## Classic Load Balancer (CLB)

- ELB중에 가장 오래된 서비스. No 추천 !
- AWS에서는 신규 생성으로 권장하지 않으며, 기존 사용자에게는 계속 지원중.

## Application Load Balancer (ALB)

- ALB는 L7단의 로드 밸런서 를 지원합니다.
- ALB는 HTTP/HTTPS 프로토콜 의 헤더를 보고 적절한 패킷으로 전송합니다.
- ALB는 IP주소 + 포트번호 + 패킷 내용을 보고 스위칭합니다.
- ALB는 IP 주소가 변동되기 때문에 Client에서 Access 할 ELB의 DNS Name을 이용해야 합니다.
- ALB는 L7단을 지원하기 때문에 SSL 적용 이 가능합니다.

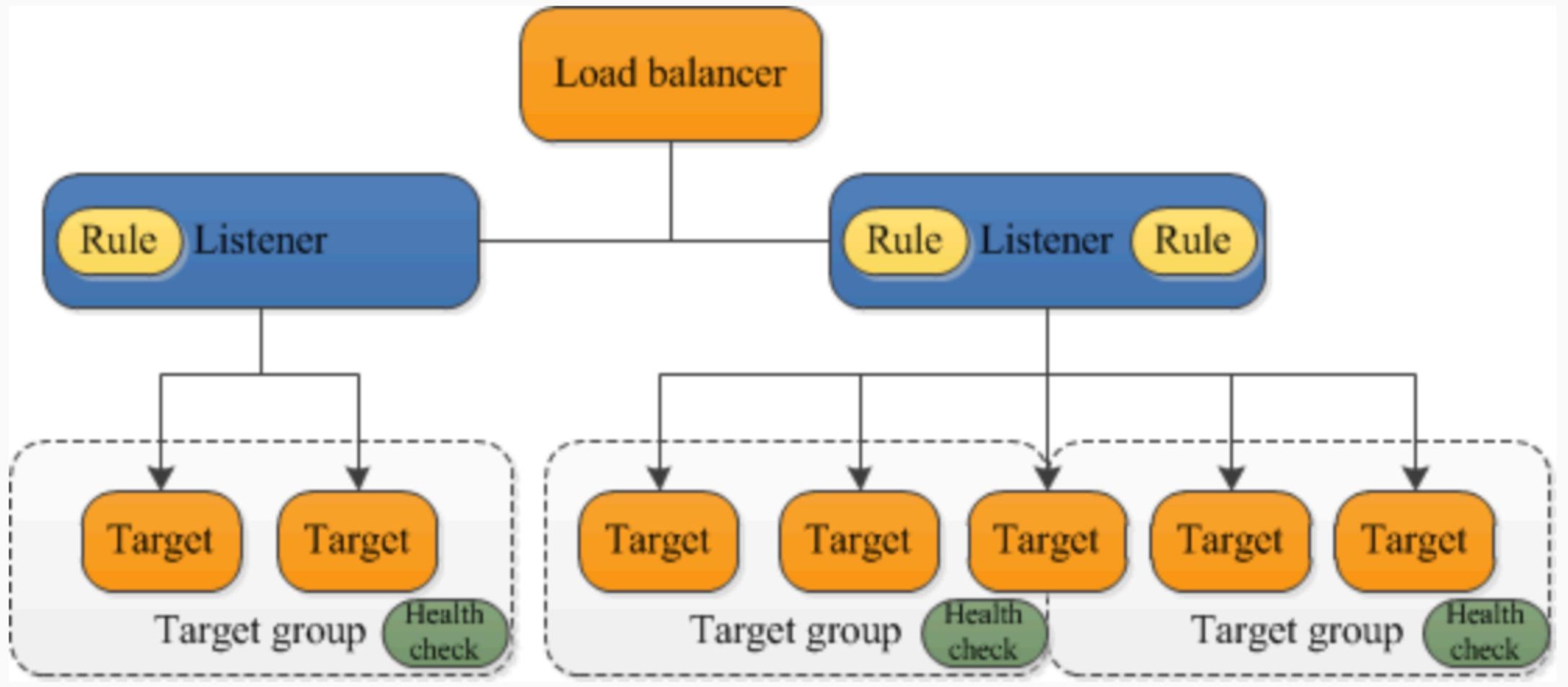
## Network Load Balancer (NLB)

- NLB는 L4단의 로드 밸런서 를 지원합니다.
- NLB는 TCP/IP 프로토콜 의 헤더를 보고 적절한 패킷으로 전송합니다.
- NLB는 IP + 포트번호를 보고 스위칭합니다.
- NLB는 할당한 Elastic IP를 Static IP로 사용이 가능 하여 DNS Name과 IP주소 모두 사용이 가능합니다.
- NLB는 SSL 적용이 인프라 단에서 불가능 하여 애플리케이션에서 따로 적용해 주어야 합니다.

## AWS ALB 구현

- (ALB에서만 사용 가능) Listener Rules는 수신한 요청을 어떻게 처리할지에 대한 규칙 (Listener Rules)을 설정한 기능이다.
- 헤더 또는 쿼리 문자열의 내용에 따라 요청을 다르게 처리할 수도 있다.
- HTTP로 들어오는 요청을 HTTPS로 리다이렉트 할 수 있다.

다음 다이어그램은 ALB의 작동 방식을 보여줍니다.



# Target Group

## 단계1: EC2 접속

The screenshot shows the AWS Management Console interface. At the top, there is a navigation bar with the AWS logo, a 'Services' button, a search bar containing 'EC2', and a close button ('X'). Below the navigation bar, there are quick links for IAM, EC2, and CloudWatch Metrics. On the left, a sidebar menu includes 'Dashboard', 'EC2 Global View', 'Events', and sections for 'Instances', 'Images', and 'Elastic Block Store'. A red arrow points from the 'EC2' link in the sidebar to the search result for 'EC2' in the main content area. The main content area displays search results for 'EC2', with the first result being 'EC2' (Virtual Servers in the Cloud) and the second result being 'EC2 Image Builder' (A managed service to automate build, customize and deploy OS images). Both results have a star icon indicating they are popular or recommended.

aws Services  X

IAM EC2

Dashboard

EC2 Global View

Events

Instances

Images

Elastic Block Store

Search results for 'EC2'

Services

Features

Resources New

Documentation

Knowledge articles

Marketplace

EC2 ★

Virtual Servers in the Cloud

EC2 Image Builder ☆

A managed service to automate build, customize and deploy OS images

## 단계2: Create target group

The screenshot shows the AWS EC2 Target Groups page. On the left, there is a navigation sidebar with the following items:

- Dashboard
- EC2 Global View
- Events
- Instances
- Images
- Elastic Block Store
- Network & Security
- Load Balancing
  - Load Balancers
  - Target Groups** (highlighted with a red box)
  - Trust Stores [New](#)

The main content area has the following structure:

- Header: EC2 > Target groups
- Section: Target groups [Info](#)
- Search bar: Filter target groups
- Table Headers: Name, ARN, Port, Protocol, Target type, Load balancer
- Text: No target groups
- Text: You don't have any target groups in ap-northeast-2
- Button: Create target group
- Footer: 0 target groups selected

A red arrow points from the text "Create target group" in the main content area to the corresponding orange button on the right side of the page.

## 단계3: Choose a target type

Choose a target type

- Instances
  - Supports load balancing to instances within a specific VPC.
  - Facilitates the use of [Amazon EC2 Auto Scaling](#) to manage and scale your EC2 capacity.
- IP addresses
  - Supports load balancing to VPC and on-premises resources.
  - Facilitates routing to multiple IP addresses and network interfaces on the same instance.
  - Offers flexibility with microservice based architectures, simplifying inter-application communication.
  - Supports IPv6 targets, enabling end-to-end IPv6 communication, and IPv4-to-IPv6 NAT.
- Lambda function
  - Facilitates routing to a single Lambda function.
  - Accessible to Application Load Balancers only.
- Application Load Balancer
  - Offers the flexibility for a Network Load Balancer to accept and route TCP requests within a specific VPC.
  - Facilitates using static IP addresses and PrivateLink with an Application Load Balancer.

## 단계4: Target group name & port

Target group name

ecs-streamlit-tg

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

Protocol : Port

Choose a protocol for your target group that corresponds to the Load Balancer type that will route traffic to it. Some protocols now include anomaly detection for the targets and you can set mitigation options once your target group is created. This choice cannot be changed after creation

HTTP



8501

1-65535

IP address type

Only targets with the indicated IP address type can be registered to this target group.

IPv4

IPv6

## 단계5: VPC & Protocol version

### VPC

Select the VPC that hosts the load balancer. Only VPCs that support the IP address type selected above are available in this list. On the **Register targets** page, you can register IP addresses from this VPC, or from private IP addresses located outside of this load balancer's VPC (such as a peered VPC, EC2-Classic, or on-premises targets that are reachable over Direct Connect or VPN).

- vpc-0e092393ffbd671b9  
IPv4 VPC CIDR: 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.

## 단계6: Health checks

### Health checks

The associated load balancer periodically sends requests, per the settings below, to the registered targets to test their status.

#### Health check protocol

HTTP



#### Health check path

Use the default path of "/" to perform health checks on the root, or specify a custom path if preferred.

/

Up to 1024 characters allowed.

#### ► Advanced health check settings

## 단계7: Next

### Attributes

ⓘ Certain default attributes will be applied to your target group. You can view and edit them after creating the target group.

### ▶ Tags - optional

Consider adding tags to your target group. Tags enable you to categorize your AWS resources so you can more easily manage them.

Cancel

Next

## 단계8: Create target group

The screenshot shows the 'Create target group' step in the AWS Lambda console. The interface includes:

- Targets (0)**: The current number of targets.
- Remove all pending**: A button to remove pending targets.
- Filter targets**: A search bar to filter the target list.
- Show only pending**: A toggle switch to show only pending targets.
- Remove IPv4 address**, **Health status**, **IP address**, **Port**, **Zone**: Headers for the target table.
- No IP addresses included yet**: A message indicating no targets have been added.
- Specify IP addresses above and add to list.**: Instructions for adding targets.
- 0 pending**: The count of pending targets.
- Cancel**, **Previous**, **Create target group**: Action buttons at the bottom.

A red arrow points from the text "Specify IP addresses above and add to list." towards the "Create target group" button.

## 단계9: 결과 확인

The screenshot shows the AWS EC2 Target groups page. On the left sidebar, under the Load Balancing section, the 'Target Groups' option is highlighted with a red box. The main content area displays a table titled 'Target groups (1)'. The table has columns for Name, ARN, Port, Protocol, Target type, Load balancer, and VPC ID. A single row is present in the table, corresponding to the target group 'ecs-streamlit-tg'. Red arrows point from the sidebar's 'Target Groups' link to the table's Name column, and from the table's ARN and Target type columns to the respective table headers.

Name	ARN	Port	Protocol	Target type	Load balancer	VPC ID
ecs-streamlit-tg	arn:aws:elasticloadbalancing:us-east-1:123456789012:targetgroup/ecs-streamlit-tg/5678901234567890	8501	HTTP	IP	(i) None associated	vpc-0e8c53d9

# 단계10: Registered targets

The screenshot shows the AWS EC2 Target Groups console. On the left, there is a navigation sidebar with the following items:

- Dashboard
- EC2 Global View
- Events
- Instances
- Images
- Elastic Block Store
- Network & Security
- Load Balancing
  - Load Balancers
  - Target Groups** (highlighted)
  - Trust Stores [New](#)
- Auto Scaling
  - Auto Scaling Groups

The main content area shows the "Target groups (1/1)" page under the "EC2 > Target groups" breadcrumb. It displays a table with one row:

<input checked="" type="checkbox"/>	Name	ARN	Port	Protocol	Target ...	Load balancer	VPC
<input checked="" type="checkbox"/>	<a href="#">ecs-streamlit-tg</a>	<a href="#">arn:aws:elasticloadbalancing:us-east-1:123456789012:targetgroup/ecs-streamlit-tg/1234567890123456</a>	8501	HTTP	IP	alp-ecs-streamlit	vpc

Below this, a modal window is open for the target group "ecs-streamlit-tg". The "Targets" tab is selected, indicated by a red box. The "Registered targets (1)" section shows one target with the following details:

- Anomaly mitigation: Not applicable
- Deregister (button)
- Register targets (button, highlighted with a red arrow)

A red arrow points from the "Register targets" button to the "Register targets" button in the modal.

## 단계11: ECS의 target private ip & port 적용

### Step 2: Specify IPs and define ports

You can manually enter IP addresses from the selected network.

Enter an IPv4 address from a VPC subnet.

172.31.15.169

Remove

Add IPv4 address

You can add up to 4 more IP addresses.

#### Ports

Ports for routing to this target.

8501

1-65535 (separate multiple ports with commas)

Include as pending below

Dashboard X

EC2 Global View

Events

Instances

Images

Elastic Block Store

Network & Security

Load Balancing

Load Balancers

**Target Groups**

Trust Stores New

Auto Scaling

Auto Scaling Groups

Settings

EC2 > Target groups

### Target groups (1/1) Info

Name ARN Port Protocol Target ... Load balancer VPC

<input checked="" type="checkbox"/>	<a href="#">ecs-streamlit-tg</a>	<input type="checkbox"/> arn:aws:elasticloadbalancing:us-east-1:123456789012:targetgroup/ecs-streamlit-tg/53f2e0d4-1234-4567-8901-234567890123	8501	HTTP	IP	alp-ecs-streamlit	vpc
-------------------------------------	----------------------------------	--	------	------	----	-------------------	-----

**Target group: ecs-streamlit-tg** X

Details Targets Monitoring Health checks Attributes Tags

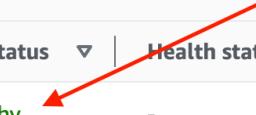
#### Registered targets (1) Info

i Anomaly mitigation: Not applicable C Deregister Register targets

Target groups route requests to individual registered targets using the protocol and port number specified. Health checks are performed on all registered targets according to the target group's health check settings. Anomaly detection is automatically applied to HTTP/HTTPS target groups with at least 3 healthy targets.

Filter targets

<input type="checkbox"/>	IP address	Port	Zone	Health status	Health status details	Anomaly detection result
<input type="checkbox"/>	172.31.15.169	8501	ap-northea...	<span style="color: green;">健康的</span> Healthy	-	<span style="color: green;">正常</span> Normal



**ALB**

# 단계1: Create load balancer

The screenshot shows the AWS EC2 Load Balancers interface. On the left, there's a navigation sidebar with links like Dashboard, EC2 Global View, Events, Instances, Images, Elastic Block Store, Network & Security, Load Balancing (with Load Balancers selected), and Target Groups. The main area is titled 'Load balancers' and contains a message: 'Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.' Below this is a search bar labeled 'Filter load balancers'. To the right of the search bar are buttons for 'Actions' and 'Create load balancer'. A red arrow points to the 'Create load balancer' button. The table below has columns for Name, DNS name, State, VPC ID, Availability Zones, and Type. The message 'No load balancers' is displayed, followed by 'You don't have any load balancers in ap-northeast-2' and a 'Create load balancer' button.

## 단계2: 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](#)

# 단계3: 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. Compatible with the **IPv4** and **Dualstack IP** address types.

## Load balancer IP address type | [Info](#)

Select the front-end IP address type to assign to the load balancer. The VPC and subnets mapped to this load balancer must include the selected IP address types. Public IPv4 addresses have an additional cost.

**IPv4**

Includes only IPv4 addresses.

**Dualstack**

Includes IPv4 and IPv6 addresses.

**Dualstack without public IPv4**

Includes a public IPv6 address, and private IPv4 and IPv6 addresses. Compatible with **internet-facing** load balancers only.

## 단계4: Network mapping

Mappings는 두개 이상 선택해줍니다.

**Network mapping** [Info](#)

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

**VPC** | [Info](#)

The load balancer will exist and scale within the selected VPC. The selected VPC is also where the load balancer targets must be hosted unless routing to Lambda or on-premises targets, or if using VPC peering. To confirm the VPC for your targets, view [target groups](#). For a new VPC, [create a VPC](#).

-  
vpc-0e092393ffbd671b9  
IPv4 VPC CIDR: 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.

**Availability Zones**

ap-northeast-2a (apne2-az1)

**Subnet**

subnet-0738ec1030c59c068  
IPv4 subnet CIDR: 172.31.0.0/20

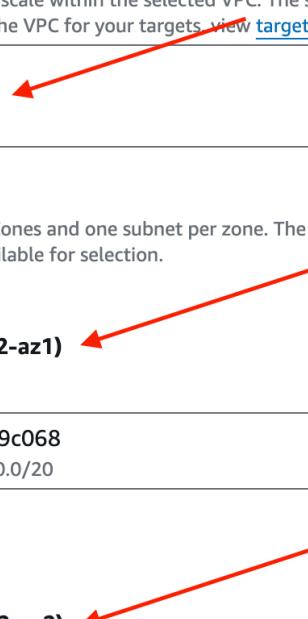
**IPv4 address**

Assigned by AWS

ap-northeast-2b (apne2-az2)

**Subnet**

subnet-0b440944f5713d145  
IPv4 subnet CIDR: 172.31.16.0/20



## 단계5: Security groups

### Security groups Info

A security group is a set of firewall rules that control the traffic to your load balancer. Select an existing security group, or you can [create a new security group](#).

#### Security groups

Select up to 5 security groups



default



sg-0b8eb5ef628718991 VPC: vpc-0e092393ffbd671b9

## 단계6: Listeners and routing

기존에 생성한 target group 선택

The screenshot shows the 'Listeners' section of an AWS CloudFormation stack. A red arrow points from the 'Protocol' dropdown menu to the 'HTTP' option, indicating the selection of the protocol. Another red arrow points from the 'Forward to' dropdown menu to the target group 'ecs-streamlit-tg', which is highlighted in blue. The target group is described as having a 'Target type: IP, IPv4'. Below the configuration, there is a section for 'Listener tags - optional' with a button to 'Add listener tag'.

▼ Listener HTTP:80

Protocol: HTTP Port: 80

Default action: Forward to: ecs-streamlit-tg Target type: IP, IPv4

Create target group

Listener tags - optional

Add listener tag

You can add up to 50 more tags.

## HTTPS도 추가

► Listener **HTTP:80** Remove

▼ Listener **HTTPS:443** Remove

Protocol Port Default action Info

HTTPS	: 443	Forward to <b>ecs-streamlit-tg</b>	HTTP	<span style="color: blue;">C</span>
1-65535		Target type: IP, IPv4	<a href="#">Create target group</a>	

**Listener tags - optional**  
Consider adding tags to your listener. Tags enable you to categorize your AWS resources so you can more easily manage them.

Add listener tag

You can add up to 50 more tags.

Add listener

# 단계7: Secure listener settings

## HTTPS에 대한 생성한 ACM 적용

**Security policy** | [Info](#)  
Your load balancer uses a Secure Socket Layer (SSL) negotiation configuration called a security policy to manage SSL connections with clients. [Compare security policies](#)

Security category	Policy name
All security policies	ELBSecurityPolicy-TLS13-1-2-2021-06 (recommended)

**Default SSL/TLS server certificate**  
The certificate used if a client connects without SNI protocol, or if there are no matching certificates. You can source this certificate from AWS Certificate Manager (ACM), Amazon Identity and Access Management (IAM), or import a certificate. This certificate will automatically be added to your listener certificate list.

**Certificate source**

From ACM

From IAM

Import certificate

**Certificate (from ACM)**  
The selected certificate will be applied as the default SSL/TLS server certificate for this load balancer's secure listeners.

\*.good593.click

[Request new ACM certificate](#)

**Client certificate handling** | [Info](#)  
Client certificates are used to make authenticated requests to remote servers. [Learn more](#)

Mutual authentication (mTLS)  
Mutual TLS (Transport Layer Security) authentication offers two-way peer authentication. It adds a layer of security over TLS and allows your services to verify the client that's making the connection.

## 단계8: Optimize with service integrations - optional



### AWS Web Application Firewall (WAF) [Info](#)

Optimizes: Security

- Apply application layer security protections - *in front of targets*

Your choice of either a pre-defined security configuration with the AWS-recommended security protections, or associate any of your existing WAF configurations for custom protections.

[Additional charges apply](#)



### AWS Global Accelerator [Info](#)

Optimizes: Performance, Availability

- Apply global load balancing across multiple regions

Creates an accelerator in your account with two global static IPs that act as a fixed entry point to your load balancer. If you do not need global static IPs or traffic management across multiple regions, select Amazon CloudFront. [Additional charges apply](#)

## 단계9: Create load balancer

Creation workflow and status

### ▶ Server-side tasks and status

After completing and submitting the above steps, all server-side tasks and their statuses become available for monitoring.

Cancel

Create load balancer



# 단계10: 결과 확인

The screenshot shows the AWS Elastic Load Balancing (ELB) console. On the left, a navigation sidebar lists various services: Dashboard, EC2 Global View, Events, Instances, Images, Elastic Block Store, Network & Security, Load Balancing (with Load Balancers selected), Target Groups, Trust Stores (New), Auto Scaling (with Auto Scaling Groups), and Settings.

The main area displays the 'Load balancers (1/1)' page. A table lists one load balancer:

Name	DNS name	State	VPC ID	Availability Zones	Type
alp-ecs-streamlit	alp-ecs-streamlit-8121546...	Active	vpc-0e092393ffbd671b9	2 Availability Zones	application

A red box highlights the 'alp-ecs-streamlit' row. Below this, a detailed view for the 'alp-ecs-streamlit' load balancer is shown. The 'Listeners and rules' tab is selected. The 'Listeners and rules (2)' section lists two listeners:

Protocol:Port	Default action	Rules	ARN	Security policy	Default SSL/TLS certificate
HTTP:80	Forward to target group • <a href="#">ecs-streamlit-tg</a> : 1 (100%) • Target group stickiness: Off	1 rule	ARN	Not applicable	Not applicable
HTTPS:443	Forward to target group • <a href="#">ecs-streamlit-tg</a> : 1 (100%) • Target group stickiness: Off	1 rule	ARN	ELBSecurityPolic...	*.good593.click (Certificate ID: ...)

Red arrows point from the labels 'HTTP:80' and 'HTTPS:443' to their respective rows in the table. Another red arrow points from the certificate link '\*.good593.click' in the HTTPS row to the right.

# 단계11: HTTP:80 > rule

The screenshot shows the AWS Elastic Load Balancing (ELB) console. On the left, a navigation sidebar lists various services: Dashboard, EC2 Global View, Events, Instances, Images, Elastic Block Store, Network & Security, Load Balancing (selected), Target Groups, Trust Stores (New), Auto Scaling (selected), Auto Scaling Groups, and Settings.

The main content area displays the "Load balancers (1/1)" page. A table lists one load balancer: "alp-ecs-streamlit" (Name), which is Active and associated with VPC ID "vpc-0e092393ffbd671b9", 2 Availability Zones, and Type "application".

A modal window titled "Load balancer: alp-ecs-streamlit" is open, showing the "Listeners and rules" tab selected (highlighted with a red box). The "Listeners and rules (2) Info" section indicates that traffic received by the listener is routed according to the default action and any additional rules. It shows two listeners: "HTTP:80" and "HTTP:443".

The "HTTP:80" listener details are shown in the table:

Protocol:Port	Default action	Rules	ARN	Security policy	Def...
HTTP:80	Forward to target group <ul style="list-style-type: none"><li>ecs-streamlit-tg [2]: 1 (100%)</li><li>Target group stickiness: Off</li></ul>	1 rule	Not applicable	Not applicable	Not applicable

A red arrow points from the "1 rule" link to the "Rules" column header.

## 단계12: Edit rule

The screenshot shows the AWS CloudFront Listener rules configuration interface. The top navigation bar has 'Rules' selected. Below it, the title 'Listener rules (1/1) [Info](#)' is displayed. A note states: 'Traffic received by the listener is routed according to the default action and any additional rules. Rules are evaluated in priority order from the lowest value to the highest.' A search bar labeled 'Filter rules' is present. To the right, there are buttons for 'Rule limits' (with a refresh icon), 'Actions ▲' (with a dropdown menu), and 'Add' (with a plus icon). A red arrow points to the 'Edit rule' option in the dropdown menu. The main table lists one rule:

Name tag	Priority ▲	Conditions (If)	Actions (Then)
<input checked="" type="checkbox"/> Default	Last (default)	If no other rule applies	<b>Forward to target group</b> <ul style="list-style-type: none"><li><a href="#">ecs-streamlit-tg</a>: 1 (100%)</li><li>Target group stickiness: Off</li></ul>

## 단계13: Listener details

### Listener details

A listener checks for connection requests using the protocol and port that you configure. The default action and any additional rules that you create determine how the Application Load Balancer routes requests to its registered targets.

#### Listener ARN

arn:aws:elasticloadbalancing:ap-northeast-2:426653742146:listener/app/alp-ecs-streamlit/403ec527635a07ff/7ad62826afef260c

### Listener configuration

The listener will be identified by the protocol and port.

#### Protocol

Used for connections from clients to the load balancer.

HTTP

#### Port

The port on which the load balancer is listening for connections.

80

1-65535

## Default actions | [Info](#)

The default action is used if no other rules apply. Choose the default action for traffic on this listener.

### Routing actions

Forward to target groups

Redirect to URL

Return fixed response

#### Redirect to URL | [Info](#)

Redirect client requests from one URL to another. You cannot redirect HTTPS to HTTP. To avoid a redirect loop, you must modify at least one of the following components: protocol, port, hostname or path. Components that you do not modify retain their original values.

**URI parts**

Full URL

#### Protocol

Used for connections from clients to the load balancer.

HTTPS

#### Port

The port on which the load balancer is listening for connections.

443

1-65535 or to retain the original port enter #{port}

#### Custom host, path, query

Select to modify host, path and query. If no changes are made, settings from the request URL are retained.

#### Status code

301 - Permanently moved

## 단계14: Save changes

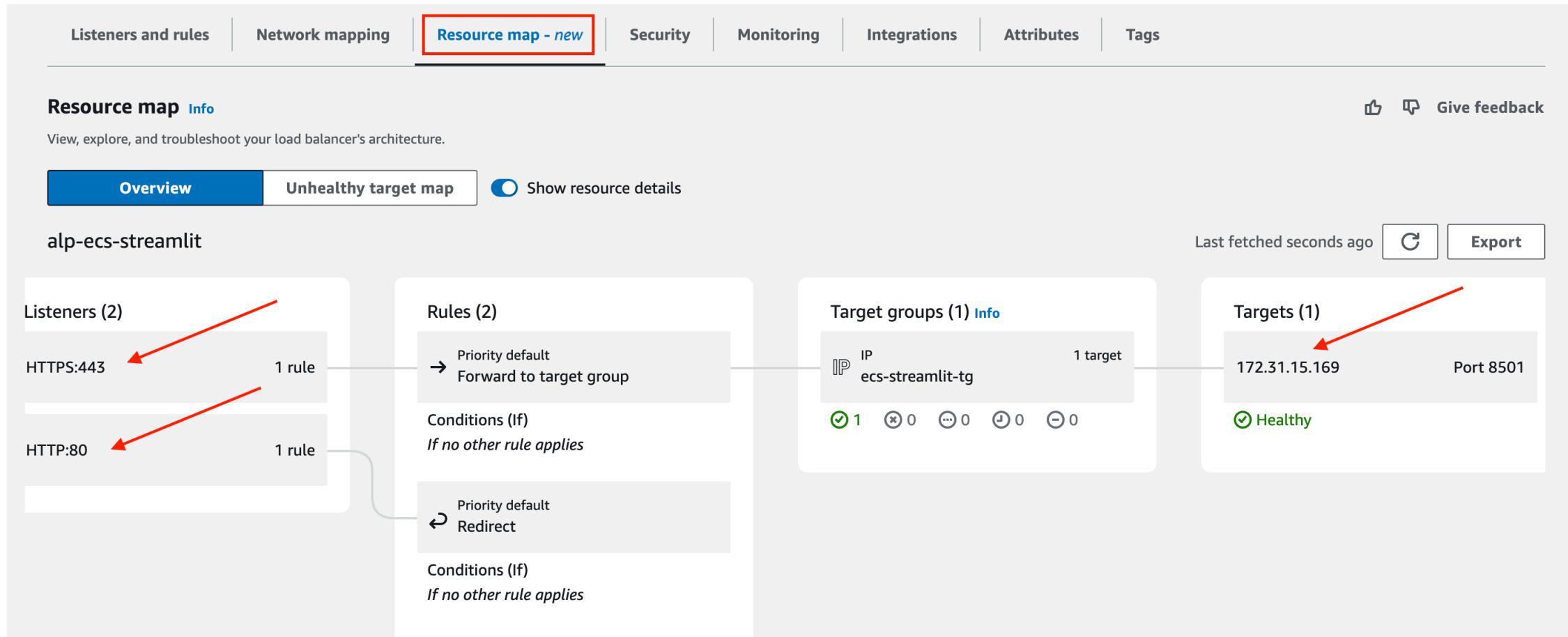
### ▶ Server-side tasks and status

After completing and submitting the above steps, all server-side tasks and their statuses become available for monitoring.

Cancel

Save changes

## 단계15: 결과 확인



# 단계16: Route 53 > 레코드 등록/수정

The screenshot shows the AWS Route 53 console interface. On the left, a sidebar navigation includes 'Route 53', 'Dashboard', 'Hosted zones' (which is selected and highlighted with a red box), 'Health checks', 'Profiles New', 'IP-based routing', 'CIDR collections', 'Traffic flow', 'Traffic policies', 'Policy records', 'Domains', 'Registered domains', 'Requests', 'Resolver', and 'VPCs'. The main content area displays the 'Hosted zones' section for 'good593.click'. The top navigation bar shows 'Route 53 > Hosted zones > good593.click'. Below this, there are buttons for 'Delete zone', 'Test record', and 'Configure query logging'. A red arrow points to the 'Edit record' button on the right. To the right of the main content, a 'Record details' panel is shown with the following fields:

- Record name: www.good593.click
- Record type: A
- Value: 43.203.119.60
- Alias: No
- TTL (seconds): 60
- Routing policy: Simple

Below the main content, a table lists 'Records (1/4)'. The first row, 'www.good593.click', has its 'Record name' column highlighted with a red box. The table columns are: Record name, Type, Routing policy, Differ..., Alias.

Record name	Type	Routing policy	Differ...	Alias
<input checked="" type="checkbox"/> www.good593.click	A	Simple	-	No
<input type="checkbox"/> good593.click	NS	Simple	-	No

Route 53 > Hosted zones > good593.click

**good593.click** Info

Delete zone Test record Configure query logging

Hosted zone details Edit hosted zone

Records (4) DNSSEC signing Hosted zone tags (0)

Records (1/4) Info

Automatic mode is the current search behavior optimized for best filter results. [To change modes go to settings.](#)

Filter records by property or value Type Routing policy Alias

Record name	Type	Routing policy	Differ...	Alias
www.good593.click	A	Simple	-	No

Edit record

Record name Info .good593.click

Keep blank to create a record for the root domain.

Alias

Route traffic to Info

Alias to Application and Classic Load Balancer

Asia Pacific (Seoul)

dualstack.alp-ecs-streamlit-812154635.ap-northeast-2.elb.amazonaws.com

Alias hosted zone ID: ZWKZPGTI48KDX

Routing policy Info

Evaluate target health

Simple routing  No

Cancel Save

## 단계17: 결과 확인

Route 53

Route 53 > Hosted zones > good593.click

Public good593.click [Info](#)

Delete zone Test record Configure query logging

Hosted zone details [Edit hosted zone](#)

Records (4) DNSSEC signing Hosted zone tags (0)

Records (4) [Info](#)

Automatic mode is the current search behavior optimized for best filter results. [To change modes go to settings.](#)

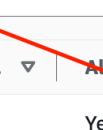
Filter records by property or value

Type Routing policy Alias Value/Route traffic to TTL (s...) Health ... Ev

< 1 > [⚙️](#)

Record name	Type	Routing policy	Differ...	Alias	Value/Route traffic to	TTL (s...)	Health ...	Ev
www.good593.click	A	Simple	-	Yes	dualstack.alp-ecs-streamlit-8...	-	-	No
					ns-1671.awsdns-16.co.uk.			
					ns-1337.awsdns-39.org.			
					ns-335.awsdns-41.com.	172800	-	-
good593.click	NS	Simple	-	No				

[Create record](#)



# 단계18: EC2 > Security Group > Inbound rules 추가

The screenshot shows the AWS EC2 console interface. On the left, the navigation menu is visible with several sections expanded, such as Instances, Images, Network & Security (with Security Groups selected), Load Balancing, Auto Scaling, and others. A red arrow points from the 'Instances' section to the main content area. Another red arrow points from the 'Security Groups' link in the Network & Security section to the 'Inbound rules' tab in the current view.

**Security Groups (1/1) Info**

Name	Security group ID	Security group name	VPC ID	Description
-	sg-0ed3aaaf3718e9bf4f	default	vpc-0e909bea75cea5b8c	default VPC security group

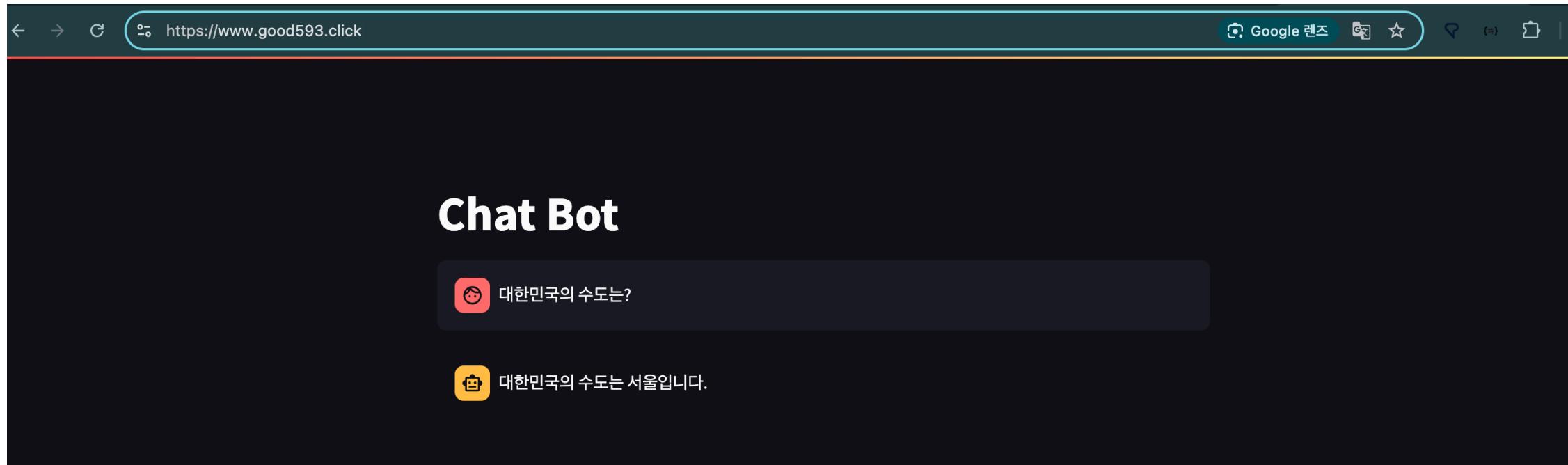
**sg-0ed3aaaf3718e9bf4f - default**

Details    **Inbound rules** (selected)    Outbound rules    Sharing - new    VPC associations - new    Tags

**Inbound rules (3)**

Name	Security group rule...	IP version	Type	Protocol	Port range	Source
-	sgr-0781a041e5b710...	IPv4	HTTP	TCP	80	0.0.0.0/0
-	sgr-0db85b9c830911...	IPv4	HTTPS	TCP	443	0.0.0.0/0

<https://도메인>



## ECS Service with ALB

# 단계1: ECS > 기존 Service 선택

The screenshot shows the AWS Elastic Container Service (ECS) Cluster overview page. The left sidebar is titled "Amazon Elastic Container Service" and contains the following navigation options:

- Clusters** (highlighted with a red box)
- Namespaces
- Task definitions
- Account settings
- Install AWS Copilot
- Amazon ECR
- Repositories
- AWS Batch
- Documentation
- Discover products
- Subscriptions
- Tell us what you think

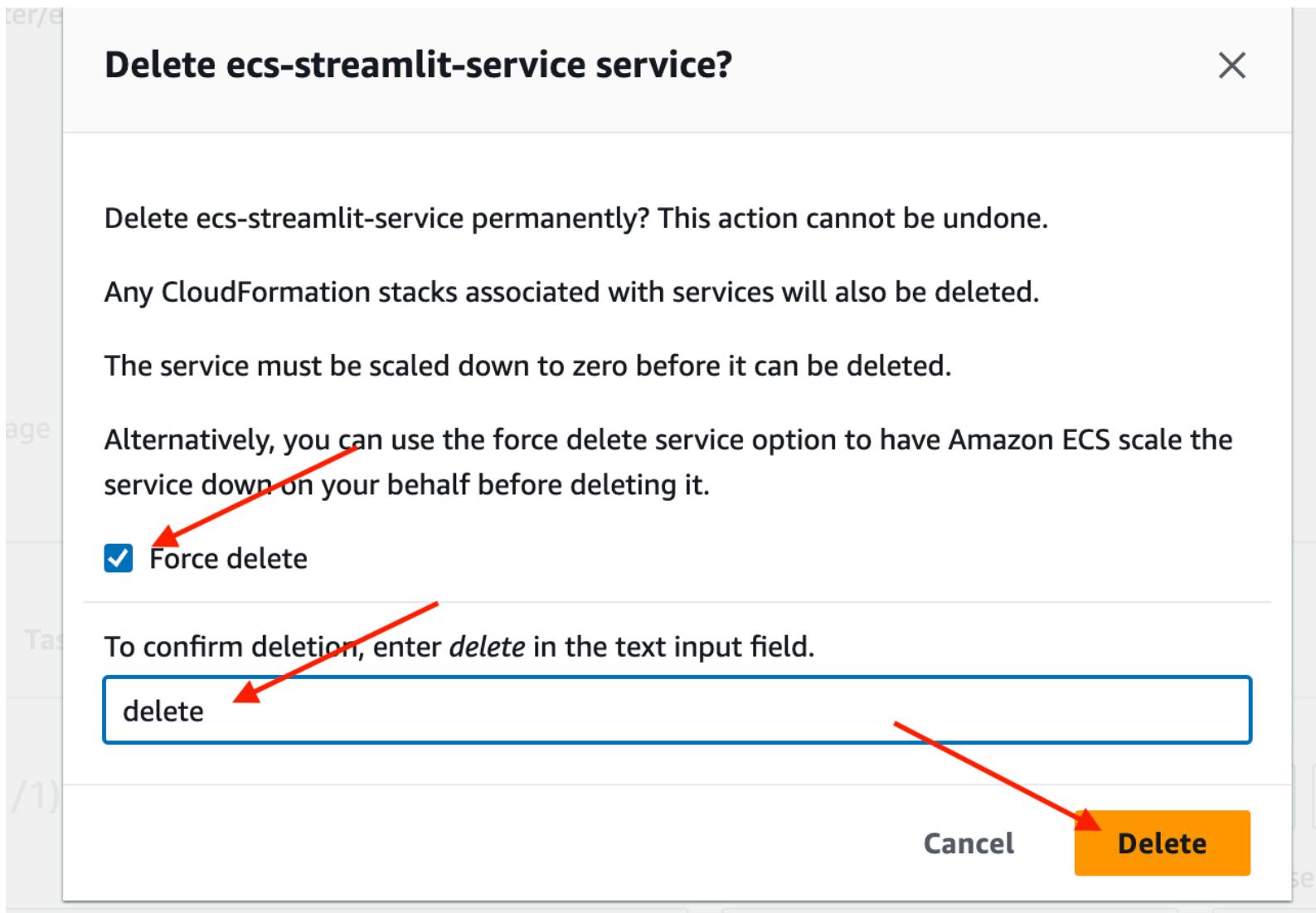
The main content area displays the "Cluster overview" for the "ecs-streamlit-cluster". It includes sections for ARN, Status, CloudWatch monitoring, Registered container instances, Services, Tasks, Encryption, and Managed storage.

At the bottom, there is a table titled "Services (1/1)" showing one service entry:

Service name	ARN	Status	Service type	Deployments and tasks
<a href="#">ecs-streamlit-service</a>	arn:aws:ecs...	Active	REPLICA	2/2 Tasks running

Below the table are several buttons: "Info", "C" (refresh), "Manage tags", "Update", "Delete service" (highlighted with a red arrow), and "Create". There are also filters for "Filter launch type" (Any launch type) and "Filter service type" (Any service type). A pagination indicator shows page 1 of 1.

## 단계2: ECS > Service Delete



# 단계3: EC2 > Target Groups 확인

시간이 좀 걸림

The screenshot shows the AWS EC2 Target Groups console. On the left, there is a navigation sidebar with the following menu items:

- Dashboard
- EC2 Global View
- Events
- Instances
- Images
- Elastic Block Store
- Network & Security
- Load Balancing
  - Load Balancers
  - Target Groups** (highlighted with a red box)
  - Trust Stores New
- Auto Scaling
  - Auto Scaling Groups
- Settings

The main content area displays the 'Target groups (1/1)' page. The table shows one target group named 'ecs-streamlit-tg'. A red box highlights the 'Name' column for this target group. The table columns include Name, ARN, Port, Protocol, Target type, Load balancer, and VPC. Below the table, a detailed view of the 'ecs-streamlit-tg' target group is shown. The 'Details' tab is selected. The 'Details' section shows the ARN: arn:aws:elasticloadbalancing:ap-northeast-2:426653742146:targetgroup/ecs-streamlit-tg/1aba8e3ab94fa5bd. The 'Targets' section shows the following metrics:

- Total targets: 4
- Healthy: 0
- Unhealthy: 1
- Unused: 0
- Initial: 0
- Draining: 3

Red arrows point from the '0 Healthy' and '1 Unhealthy' counts to their respective green and red checkmark icons.

## 단계4: EC2 > 등록된 Target 삭제

The screenshot shows the AWS CloudWatch Metrics console interface. On the left, a navigation sidebar lists various services: Events, Instances, Images, Elastic Block Store, Network & Security, Load Balancing (selected), Auto Scaling, and Settings. Under Load Balancing, 'Target Groups' is highlighted with a red box and a red arrow pointing from the sidebar to the 'Targets' tab in the main content area.

The main content area displays the 'Target groups' section. A table header includes columns for Name, ARN, Port, Protocol, Target type, Load balancer, and VPC. A row for 'ecs-streamlit-tg' is selected and highlighted with a red box. The 'Targets' tab is active, showing a table of registered targets. The first target listed is 172.31.15.169, port 8501, with a status of 'Unhealthy' (indicated by a red circle with a cross) and 'Request timed out' under Health status details. A red arrow points from the 'Deregister' button to this target row.

Name	ARN	Port	Protocol	Target type	Load balancer	VPC
ecs-streamlit-tg	arn:aws:elasticloadbalancing:us-east-1:123456789012:targetgroup/ecs-streamlit-tg/5678901234567890	8501	HTTP	IP	alp-ecs-streamlit	vpc-1234567890123456

IP address	Port	Zone	Health status	Health status details	Anomaly detection result
172.31.15.169	8501	ap-northeast-1	Unhealthy	Request timed out	Normal

## 단계5: ECS > Create Service

The screenshot shows the AWS Elastic Container Service (ECS) console. On the left, there's a sidebar with links like 'Clusters', 'Namespaces', 'Task definitions', 'Account settings', 'Install AWS Copilot', 'Amazon ECR', 'Repositories', 'AWS Batch', 'Documentation', 'Discover products', and 'Subscriptions'. The main area displays service details for 'arn:aws:ecs:ap-northeast-2:42665:3742146:cluster/ecs-streamlit-cluster'. It includes sections for 'ARN', 'Status' (Active), 'CloudWatch monitoring' (Default checked), and 'Registered container instances' (empty). Below this, there are sections for 'Services' (Draining, Active) and 'Tasks' (Pending, Running). Under 'Encryption', it shows 'Managed storage' and 'Fargate ephemeral storage' both as empty. At the bottom, there are tabs for 'Services' (which is selected and highlighted with a red box), 'Tasks', 'Infrastructure', 'Metrics', 'Scheduled tasks', and 'Tags'. A large orange 'Create' button is located at the top right of the main content area, with a red arrow pointing towards it from the bottom right.

## ▼ Compute configuration (advanced)

### Compute options | [Info](#)

To ensure task distribution across your compute types, use appropriate compute options.

#### Capacity provider strategy

Specify a launch strategy to distribute your tasks across one or more capacity providers.

#### Launch type

Launch tasks directly without the use of a capacity provider strategy.

### Launch type | [Info](#)

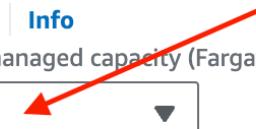
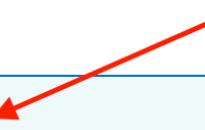
Select either managed capacity (Fargate), or custom capacity (EC2 or user-managed, External instances). External instances are registered to your cluster using the ECS Anywhere capability.

FARGATE

### Platform version | [Info](#)

Specify the platform version on which to run your service.

LATEST



## Deployment configuration

### Application type | [Info](#)

Specify what type of application you want to run.

Service

Launch a group of tasks handling a long-running computing work that can be stopped and restarted. For example, a web application.

Task

Launch a standalone task that runs and terminates. For example, a batch job.

### Task definition

Select an existing task definition. To create a new task definition, go to [Task definitions](#) .

Specify the revision manually

Manually input the revision instead of choosing from the 100 most recent revisions for the selected task definition family.

#### Family

ecs-streamlit-task

#### Revision

2 (LATEST)

### Service name

Assign a service name that is unique for this cluster.

ecs-streamlit-service

Up to 255 letters (uppercase and lowercase), numbers, underscores, and hyphens are allowed. Service names must be unique within a cluster.

### Service type | [Info](#)

Specify the service type that the service scheduler will follow.

Replica

Place and maintain a desired number of tasks across your cluster.

Daemon

Place and maintain one copy of your task on each container instance.

### Desired tasks

Specify the number of tasks to launch.

2

### ► Deployment options

### ► Deployment failure detection [Info](#)

## ▼ Load balancing - optional

Configure load balancing using Amazon Elastic Load Balancing to distribute traffic evenly across the healthy tasks in your service.

### Load balancer type | [Info](#)

Configure a load balancer to distribute incoming traffic across the tasks running in your service.

None

None

No load balancing configuration for the service.

Application Load Balancer

An Application Load Balancer makes routing decisions at the application layer (HTTP/HTTPS), supports path-based routing, and can route requests to one or more ports.

Network Load Balancer

A Network Load Balancer makes routing decisions at the transport layer (TCP/UDP).

your service auto scaling configuration at any

Application Load Balancer



Load balancer type | [Info](#)

Configure a load balancer to distribute incoming traffic across the tasks running in your service.

Application Load Balancer

Container

The container and port to load balance the incoming traffic to

ecs-streamlit-container 8501:8501

Host port:Container port

Application Load Balancer

Specify whether to create a new load balancer or choose an existing one.

Create a new load balancer

Use an existing load balancer

Load balancer

Select the load balancer you wish to use to distribute incoming traffic across the tasks running in your service.

alp-ecs-streamlit

Health check grace period | [Info](#)

0

seconds

**Listener** | [Info](#)

Specify the port and protocol that the load balancer will listen for connection requests on.

Create new listener  
 Use an existing listener

Listener  
443:HTTPS

**Listener rules for 443:HTTPS (1)**

Traffic received by the listener is routed according to its rules. Rules are evaluated in priority order, from the lowest value to the highest value. The default rule is evaluated last.

< 1 >

Evaluation order	Rule path	Target group
default	/	<a href="#">ecs-streamlit-tg</a>

**Target group** | [Info](#)

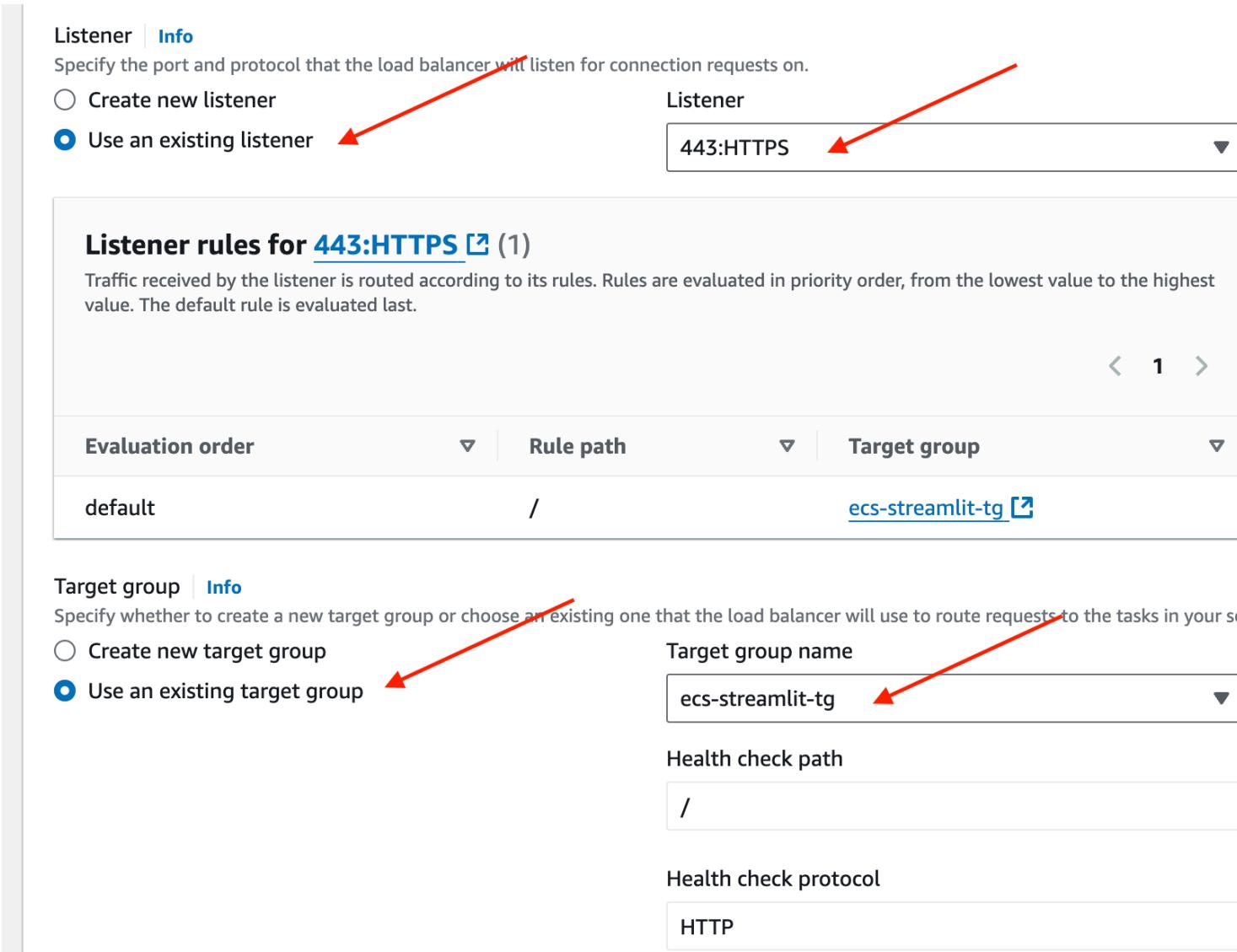
Specify whether to create a new target group or choose an existing one that the load balancer will use to route requests to the tasks in your service.

Create new target group  
 Use an existing target group

Target group name  
ecs-streamlit-tg

Health check path  
/

Health check protocol  
HTTP



► **Service auto scaling - optional**

Automatically adjust your service's desired count up and down within a specified range in response to CloudWatch alarms. You can modify your service auto scaling configuration at any time to meet the needs of your application.

► **Volume - optional** [Info](#)

Configure a data volume to provide additional storage for the containers in the task.

► **Tags - optional** [Info](#)

Tags help you to identify and organize your resources.

Cancel

Create

# 단계6: ECS > Service 결과 확인

The screenshot shows the AWS Elastic Container Service (ECS) console. A red box highlights the 'Amazon Elastic Container Service' header. The left sidebar includes links for Clusters, Namespaces, Task definitions, Account settings, Install AWS Copilot, Amazon ECR, and AWS Batch. The main area displays the 'Cluster overview' and 'Services' sections.

**Cluster overview:**

- ARN: arn:aws:ecs:ap-northeast-2:426653742146:cluster/ecs-streamlit-cluster
- Status: Active
- CloudWatch monitoring: Default
- Registered container instances: -

**Services:**

- Draining: -
- Active: 1
- Pending: -
- Running: 2

**Encryption:**

- Managed storage: -
- Fargate ephemeral storage: -

**Services Tab:**

Services (1) [Info](#) [Create](#)

Service name	ARN	Status	Service type	Deployments and tasks
<a href="#">ecs-streamlit-service</a>	arn:aws:ecs...	Active	REPLICA	2/2 Tasks running

Filter launch type: Any launch type | Filter service type: Any service type

A red arrow points from the 'Tell us what you think' link in the sidebar to the 'Services' table. Another red arrow points from the 'Tasks' section in the 'Cluster overview' to the 'Tasks' tab in the 'Services' section. A third red arrow points from the 'Pending' value in the 'Cluster overview' to the 'Pending' value in the 'Services' table.

# 단계7: EC2 > Target Groups 확인

The screenshot shows the AWS EC2 Target Groups interface. On the left, a navigation sidebar lists various services: Dashboard, EC2 Global View, Events, Instances, Images, Elastic Block Store, Network & Security, Load Balancing (with Load Balancers and Target Groups selected), Trust Stores (New), and Auto Scaling (with Auto Scaling Groups). The main content area is titled "EC2 > Target groups" and shows "Target groups (1/1) Info". A table lists one target group: "ecs-streamlit-tg". The table columns include Name, ARN, Port, Protocol, Target type, Load balancer, and VPC. The "Name" column is highlighted with a red box. Below the table, a detailed view for the "ecs-streamlit-tg" target group is shown. The "Details" tab is selected. The "Details" section displays the ARN: arn:aws:elasticloadbalancing:ap-northeast-2:426653742146:targetgroup/ecs-streamlit-tg/1aba8e3ab94fa5bd. Below this, the target group configuration is listed: Target type (IP), Protocol : Port (HTTP: 8501), Protocol version (HTTP1), VPC (vpc-0e092393ffbd671b9), IP address type (IPv4), and Load balancer (alp-ecs-streamlit). At the bottom, status metrics are shown: Total targets (2, Healthy), Unused (0), Initial (0), and Draining (0). Red arrows point from the "Total targets" and "Unused" columns to their respective values.

Name	ARN	Port	Protocol	Target type	Load balancer	VPC
<a href="#">ecs-streamlit-tg</a>	arn:aws:elasticloadbalancing:ap-northeast-2:426653742146:targetgroup/ecs-streamlit-tg/1aba8e3ab94fa5bd	8501	HTTP	IP	alp-ecs-streamlit	vpc-0e092393ffbd671b9

**Target group: ecs-streamlit-tg**

**Details** [Targets](#) [Monitoring](#) [Health checks](#) [Attributes](#) [Tags](#)

**Details**

arn:aws:elasticloadbalancing:ap-northeast-2:426653742146:targetgroup/ecs-streamlit-tg/1aba8e3ab94fa5bd

Target type IP	Protocol : Port HTTP: 8501	Protocol version HTTP1	VPC <a href="#">vpc-0e092393ffbd671b9</a>
IP address type IPv4	Load balancer <a href="#">alp-ecs-streamlit</a>		
Total targets 2	Healthy	Unused 0	Initial 0
	Unhealthy 0		Draining 0

Dashboard
EC2 Global View
Events
▶ Instances
▶ Images
▶ Elastic Block Store
▶ Network & Security
▶ Load Balancing
Load Balancers
<b>Target Groups</b>
Trust Stores <a href="#">New</a>
▶ Auto Scaling
Auto Scaling Groups

EC2 > Target groups

**Target groups (1/1) [Info](#)**

<input checked="" type="checkbox"/>	Name	ARN	Port	Protocol	Target ...	Load balancer	VPC
<input checked="" type="checkbox"/>	<a href="#">ecs-streamlit-tg</a>	arn:aws:elasticloadbalanci...	8501	HTTP	IP	alp-ecs-streamlit	vpc

**Target group: ecs-streamlit-tg**

[Details](#) | **Targets** | [Monitoring](#) | [Health checks](#) | [Attributes](#) | [Tags](#)

**Registered targets (2) [Info](#)**

Anomaly mitigation: Not applicable

<input type="checkbox"/>	IP address	Port	Zone	Health status	Health status details	Anomaly detection result
<input type="checkbox"/>	172.31.26.204	8501	ap-northea...	Healthy	-	Normal
<input type="checkbox"/>	172.31.10.2	8501	ap-northea...	Healthy	-	Normal

## 단계8: https 접속

[https://도메인](https://www.good593.click)

