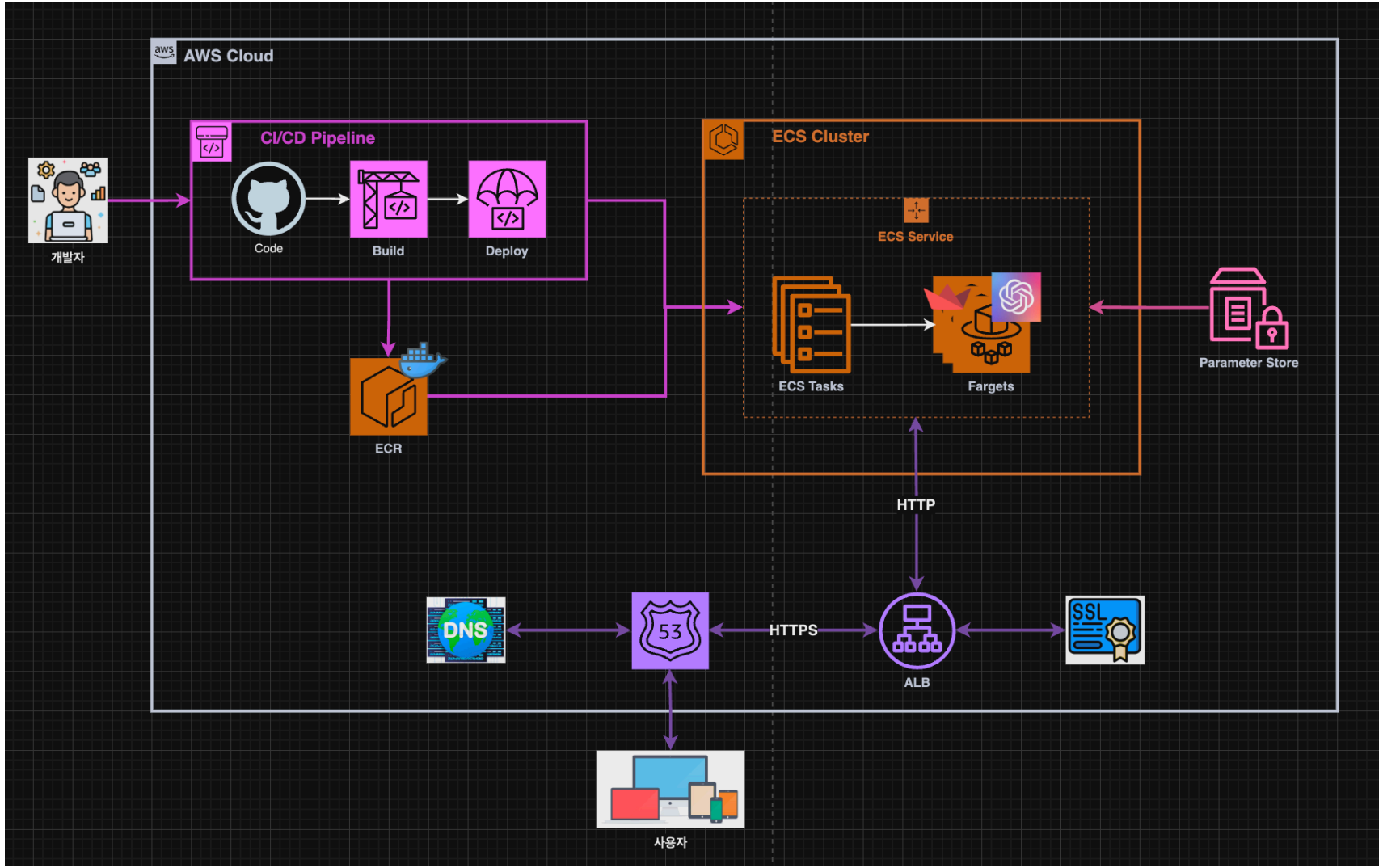
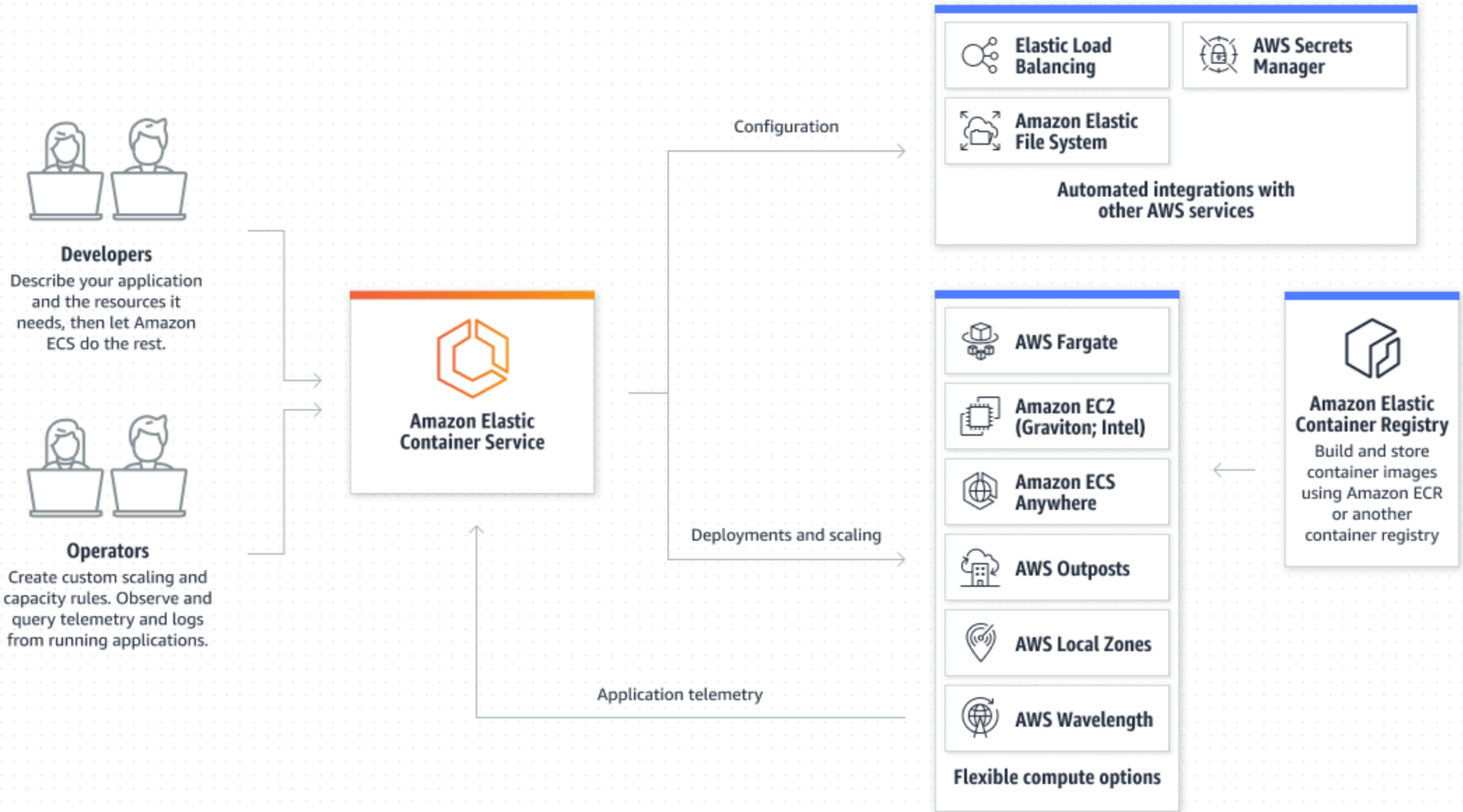
Architecture



Amazon Elastic Container Service

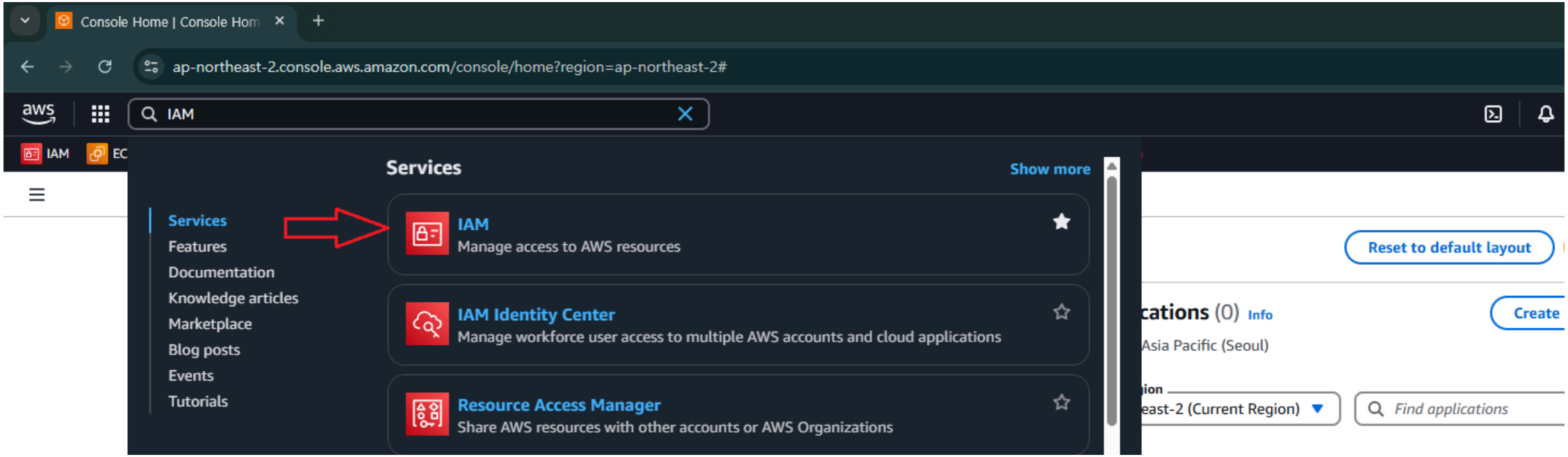
- Amazon Elastic Container Service(ECS)는 컨테이너화된 애플리케이션이 더 효율적으로 배포하고 관리하고 규모를 조정하는 데 도움이 되는 완전관리형 컨테이너 오케스트레이션 서비스입니다.


Developers
Describe your application and the resources it needs, then let Amazon ECS do the rest.
Operators
Create custom scaling and capacity rules. Observe and query telemetry and logs from running applications.
Amazon Elastic Container Service
Configuration
Deployments and scaling
Application telemetry
Elastic Load Balancing
AWS Secrets Manager
Amazon Elastic File System
Automated integrations with other AWS services
AWS Fargate
Amazon EC2 (Graviton; Intel)
Amazon ECS Anywhere
AWS Outposts
AWS Local Zones
AWS Wavelength
Flexible compute options
Amazon Elastic Container Registry
Build and store container images using Amazon ECR or another container registry

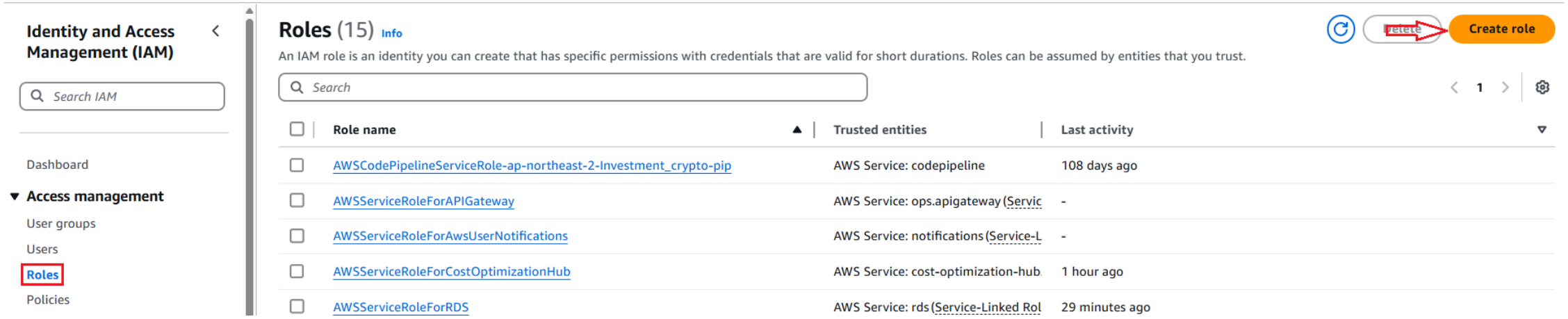
escTaskServiceRole 생성

- ECS Task에서 Parameter Store에 접속 및 조회 권한 추가

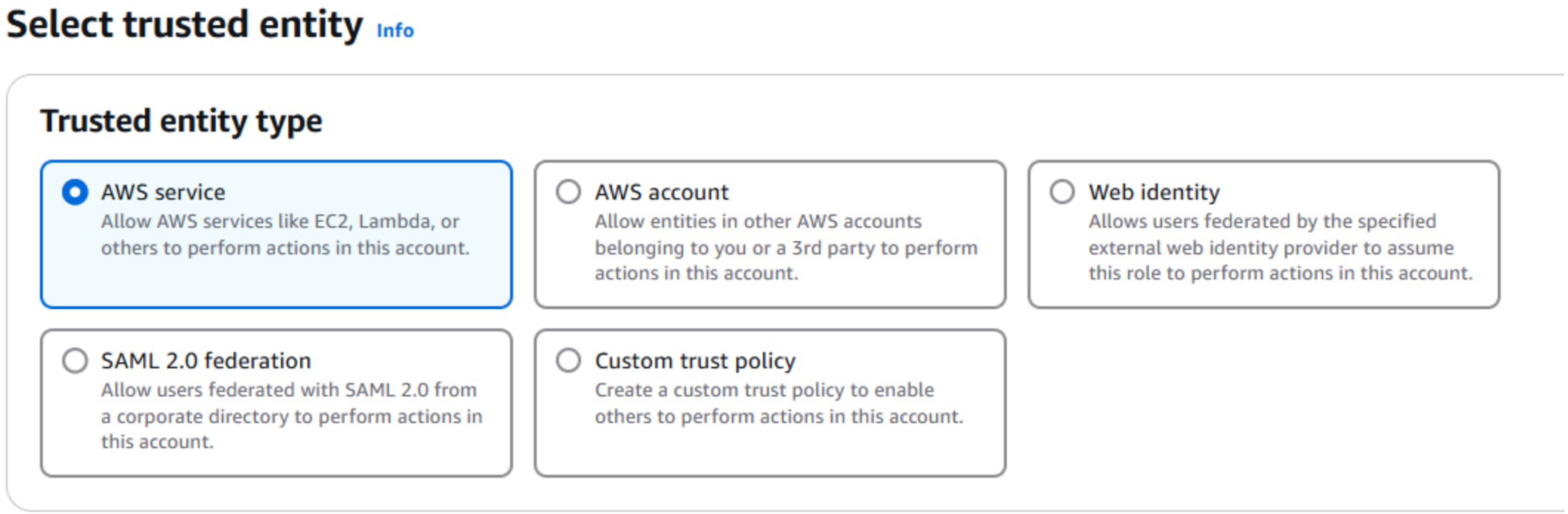
단계1: IAM 접속


Console Home | Console Hom
ap-northeast-2.console.aws.amazon.com/console/home?region=ap-northeast-2#
aws
IAM
IAM
EC
Services
Show more
Services
Features
Documentation
Knowledge articles
Marketplace
Blog posts
Events
Tutorials
IAM
Manage access to AWS resources
IAM Identity Center
Manage workforce user access to multiple AWS accounts and cloud applications
Resource Access Manager
Share AWS resources with other accounts or AWS Organizations
Reset to default layout
cations (0) Info
Create
Asia Pacific (Seoul)
east-2 (Current Region)
Find applications

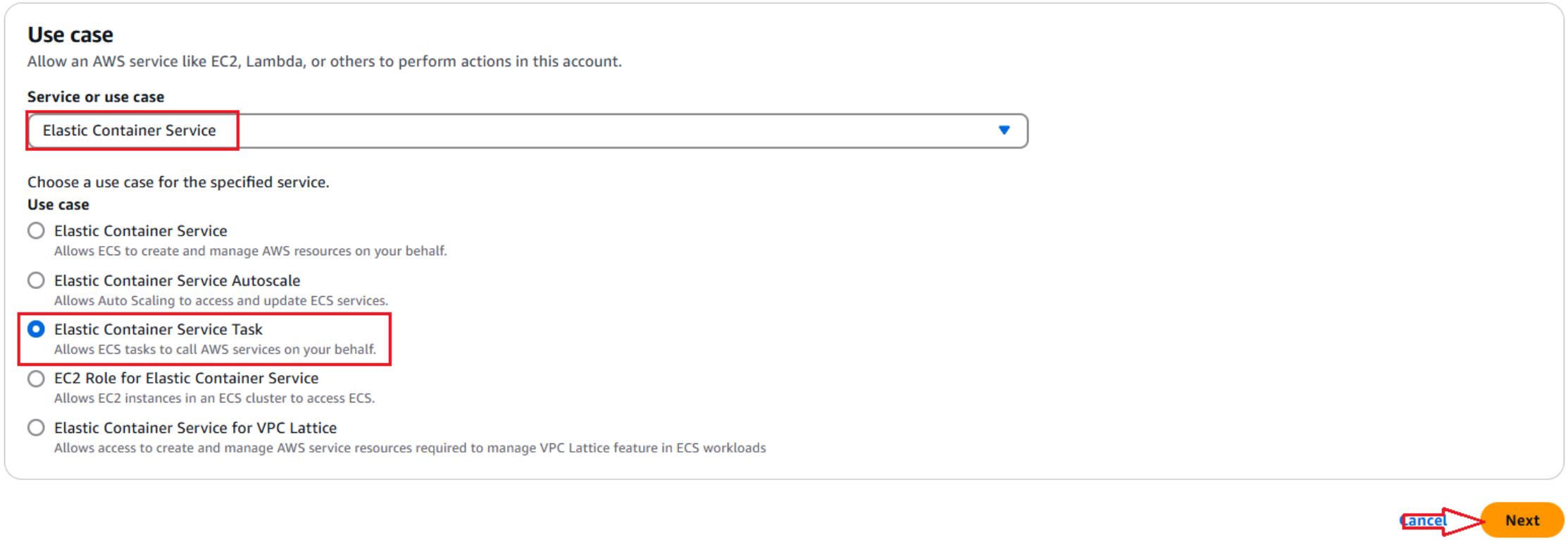
단계2: Create Role



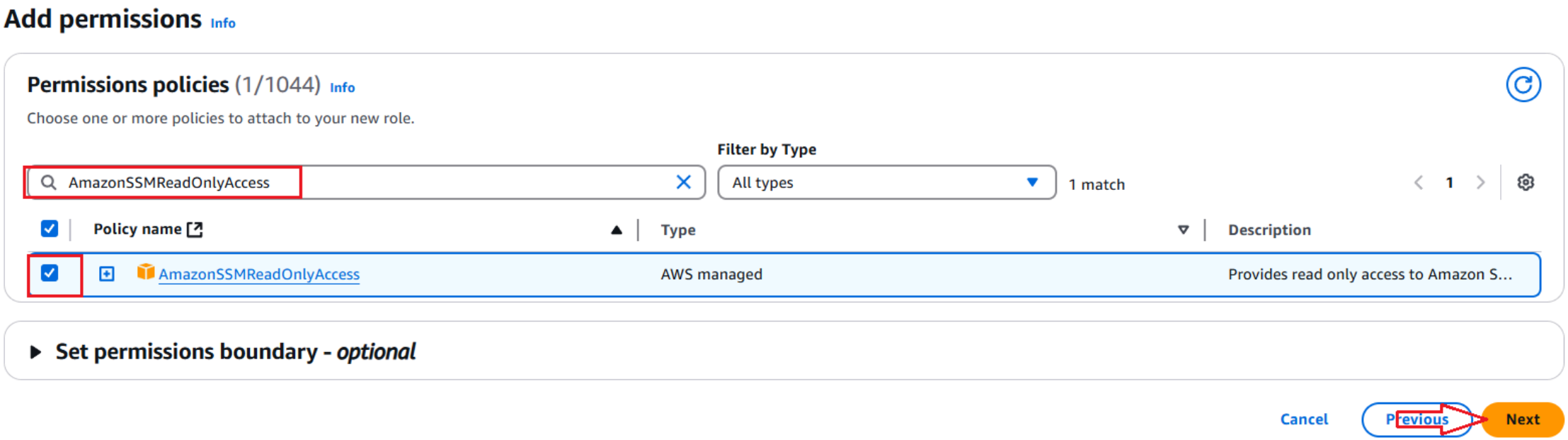
단계3: Trusted entity type



단계4: Use case


Use case
Allow an AWS service like EC2, Lambda, or others to perform actions in this account.
Service or use case
Elastic Container Service
Choose a use case for the specified service.
Use case
Elastic Container Service
Allows ECS to create and manage AWS resources on your behalf.
Elastic Container Service Autoscale
Allows Auto Scaling to access and update ECS services.
Elastic Container Service Task
Allows ECS tasks to call AWS services on your behalf.
EC2 Role for Elastic Container Service
Allows EC2 instances in an ECS cluster to access ECS.
Elastic Container Service for VPC Lattice
Allows access to create and manage AWS service resources required to manage VPC Lattice feature in ECS workloads
Cancel
Next

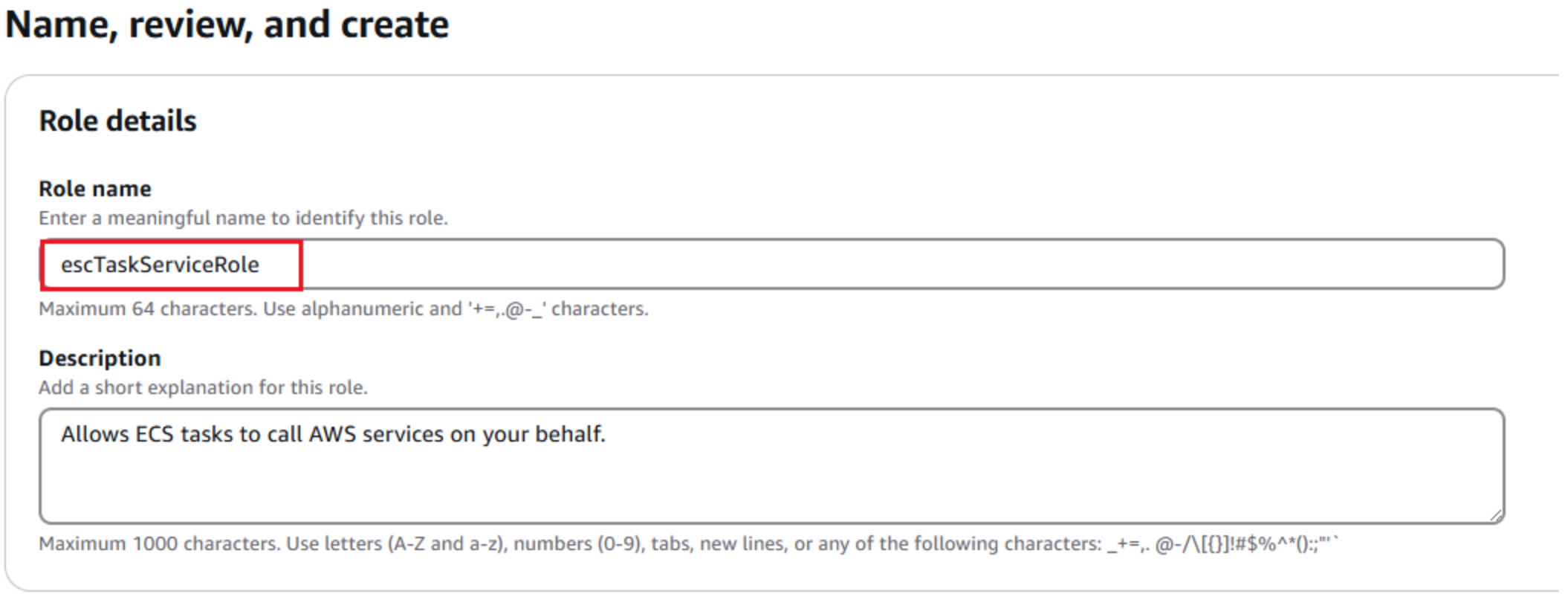
단계5: Add AmazonSSMReadOnlyAccess



단계6: Role details

- Role Name

```
escTaskServiceRole
```



단계7: Create

Step 2: Add permissions

Edit

Permissions policy summary

Policy name	Type	Attached as
AmazonSSMReadOnlyAccess	AWS managed	Permissions policy

Step 3: Add tags

Add tags - *optional* Info

Tags are key-value pairs that you can add to AWS resources to help identify, organize, or search for resources.

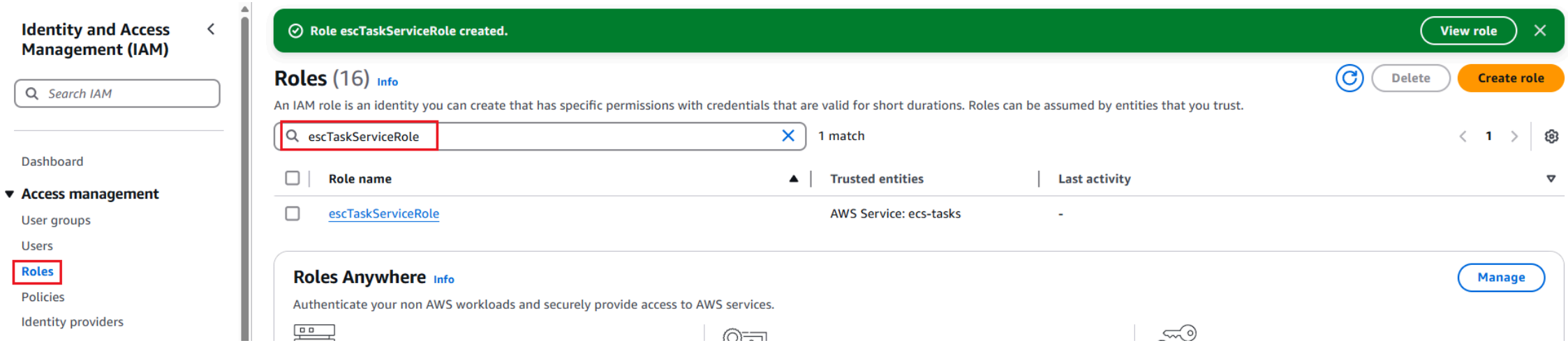
No tags associated with the resource.

Add new tag

You can add up to 50 more tags.

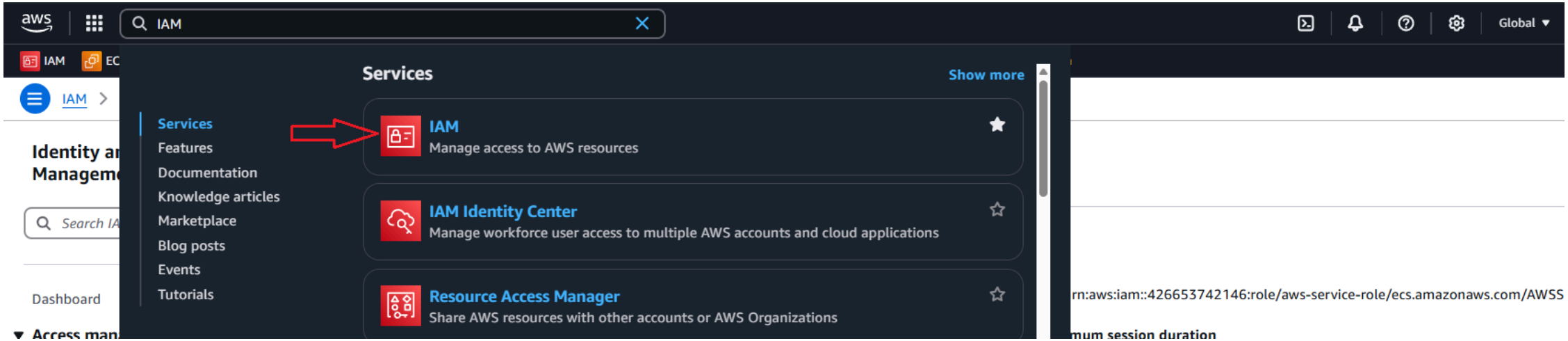
Cancel Previous Create role

- 생성된 Role 확인

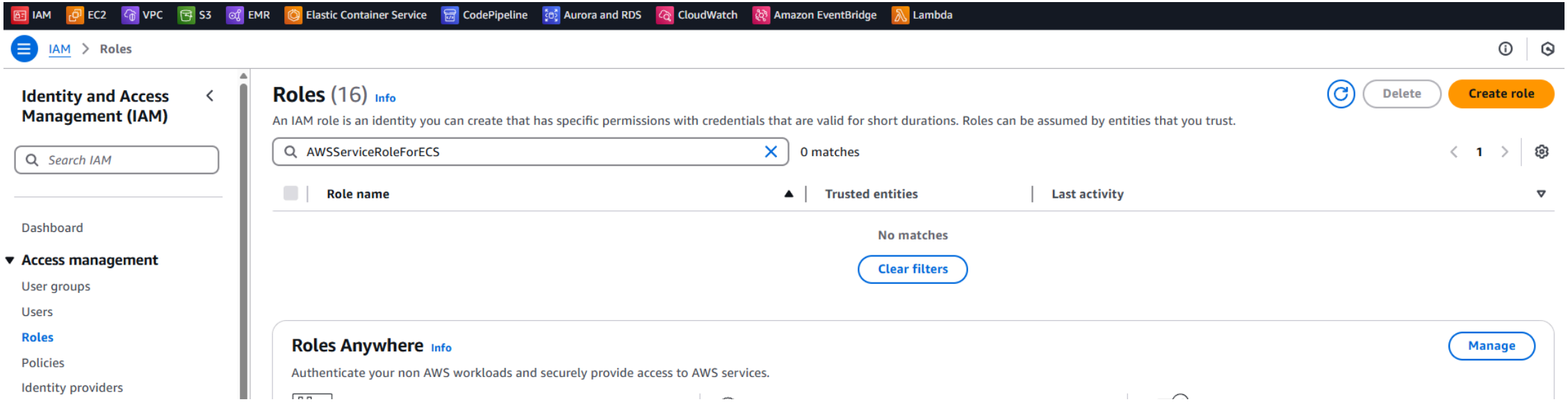

Identity and Access Management (IAM)
Search IAM
Dashboard
Access management
User groups
Users
Roles
Policies
Identity providers
Role escTaskServiceRole created.
View role
Roles (16) Info
An IAM role is an identity you can create that has specific permissions with credentials that are valid for short durations. Roles can be assumed by entities that you trust.
Delete
Create role
escTaskServiceRole
1 match
1
Role name
Trusted entities
Last activity
escTaskServiceRole
AWS Service: ecs-tasks
-
Roles Anywhere Info
Manage
Authenticate your non AWS workloads and securely provide access to AWS services.

Cluster

단계1: IAM 접속


aws
IAM
Global
IAM
EC
IAM
Identity ar
Managem
Search IA
Dashboard
Access man
Services
Features
Documentation
Knowledge articles
Marketplace
Blog posts
Events
Tutorials
Services
Show more
IAM
Manage access to AWS resources
IAM Identity Center
Manage workforce user access to multiple AWS accounts and cloud applications
Resource Access Manager
Share AWS resources with other accounts or AWS Organizations
rn:aws:iam::426653742146:role/aws-service-role/ecs.amazonaws.com/AWSS
mum session duration

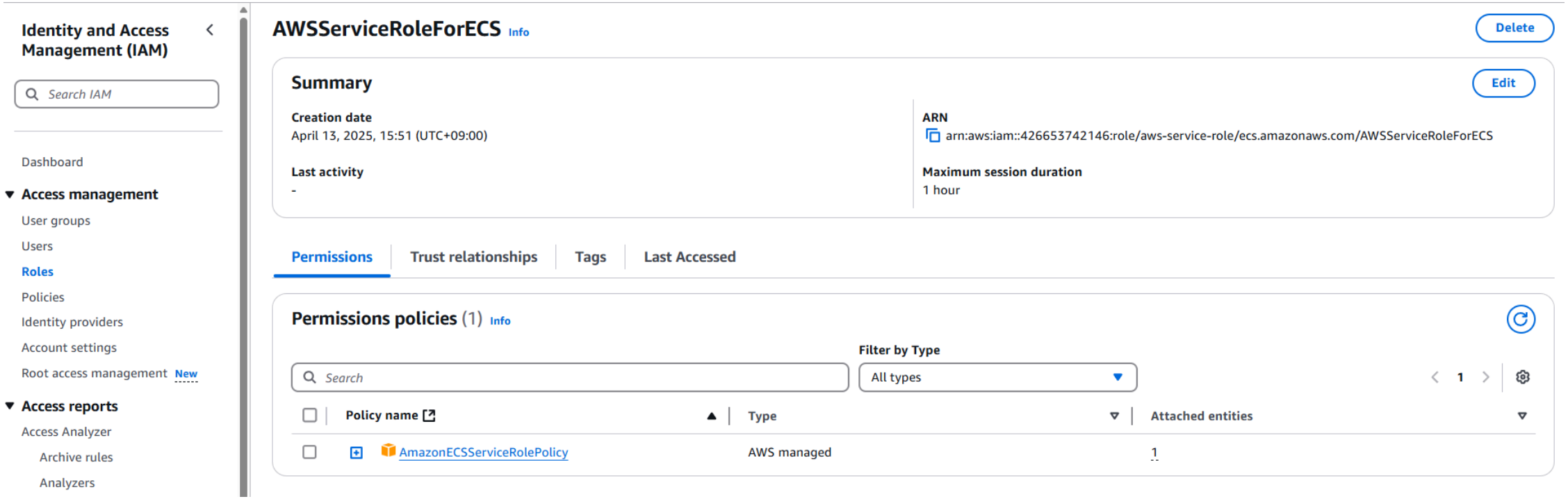
단계2: AWSServiceRoleForECS 유무 확인



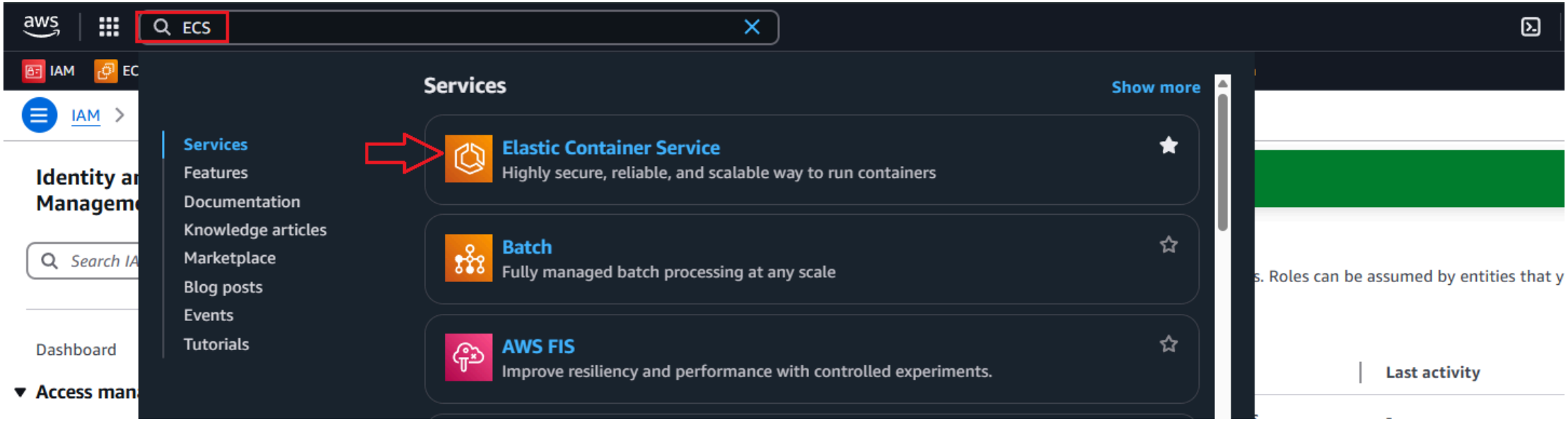
- 만약 조회가 안된다면, 실행

```
aws iam create-service-linked-role --aws-service-name ecs.amazonaws.com
```

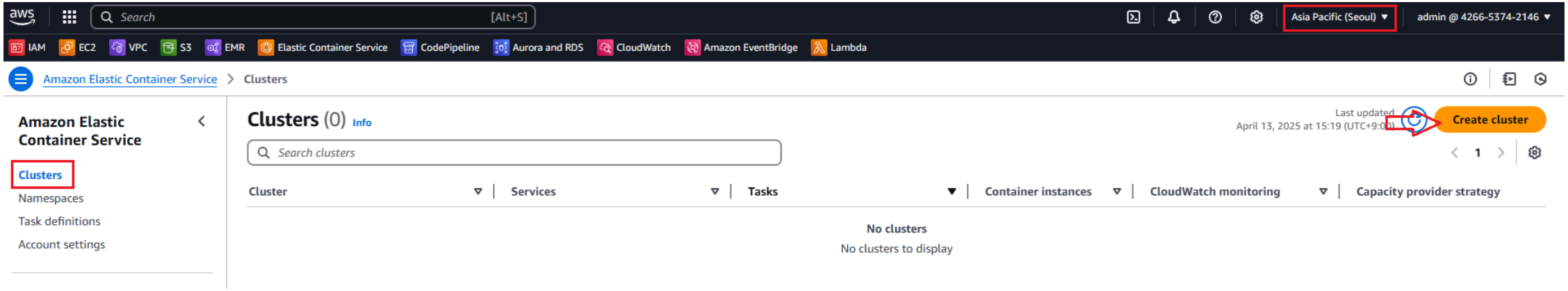
- IAM에서 AWSServiceRoleForECS 생성 확인



단계3: ECS 접속

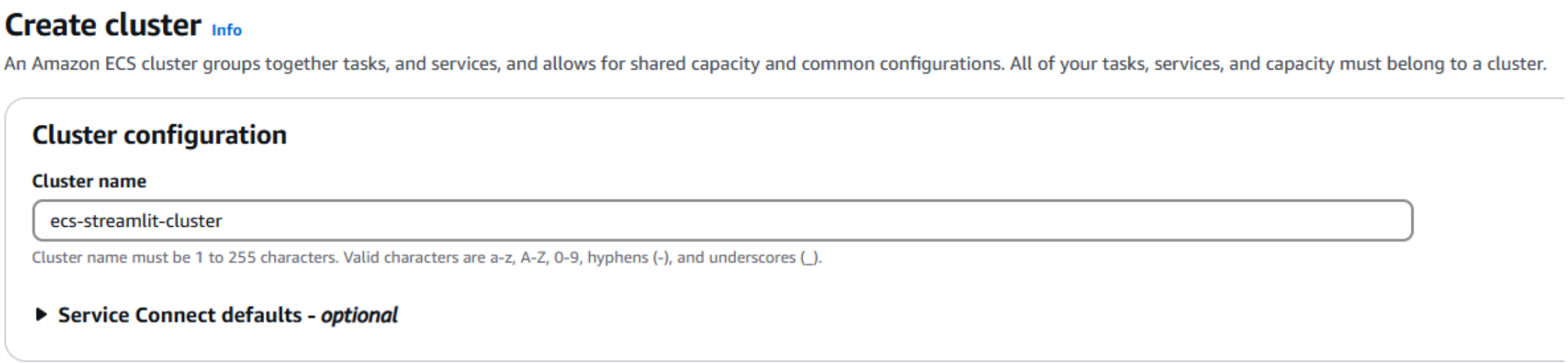

aws
ECS
IAM
IAM
Identity ar
Managem
Search IA
Dashboard
Access man
Services
Features
Documentation
Knowledge articles
Marketplace
Blog posts
Events
Tutorials
Services
Show more
Elastic Container Service
Highly secure, reliable, and scalable way to run containers
Batch
Fully managed batch processing at any scale
AWS FIS
Improve resiliency and performance with controlled experiments.
s. Roles can be assumed by entities that y
Last activity

단계4: Create cluster

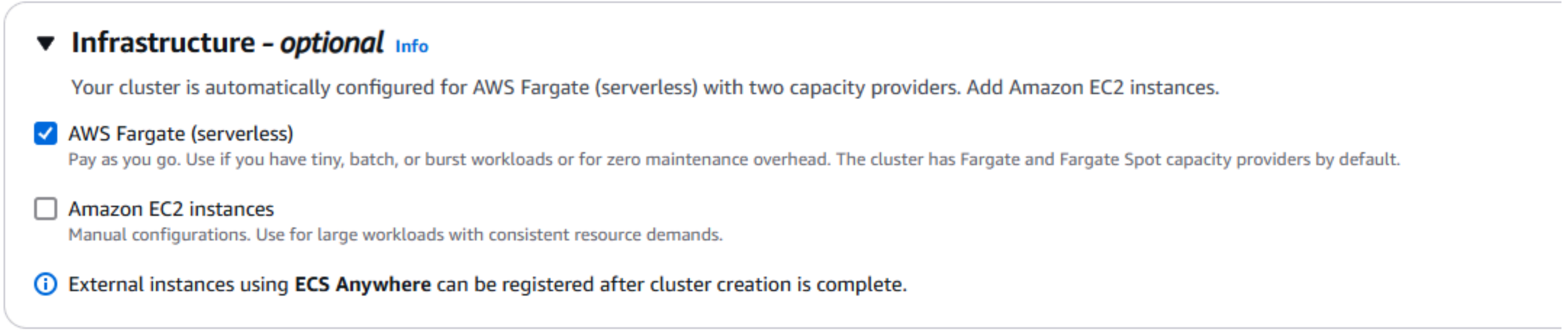


단계5: Create cluster > Cluster configuration

```
ecs-streamlit-cluster
```

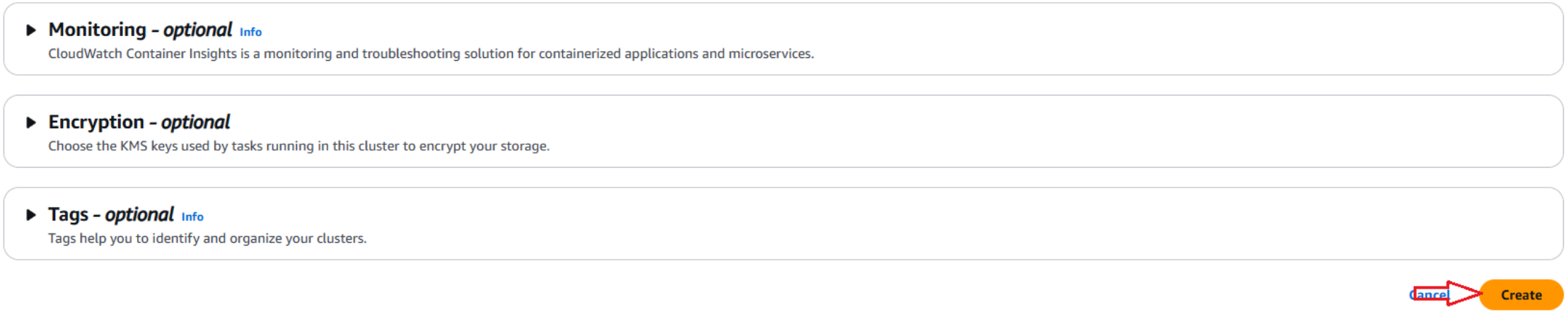


단계6: Create cluster > Infrastructure

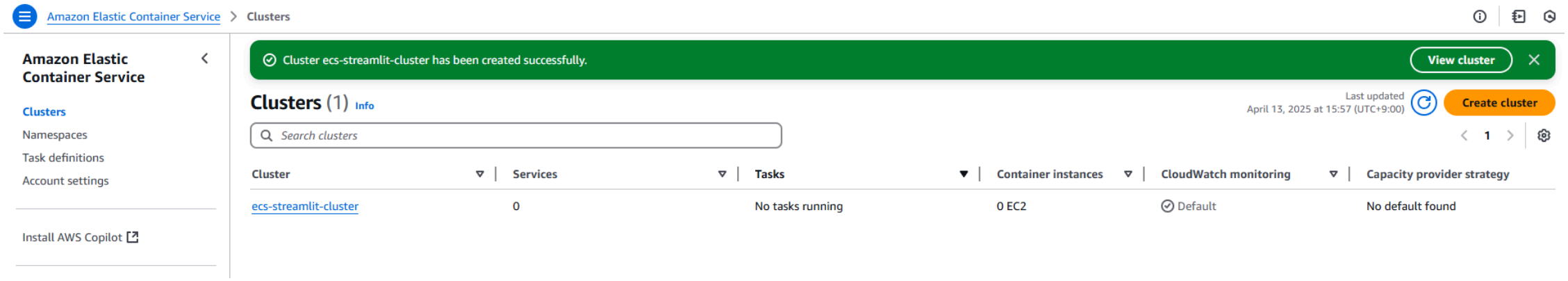


단계7: Create cluster > Create

- AWS KMS를 사용하는 경우에 세팅(이번 강의에서는 생략)

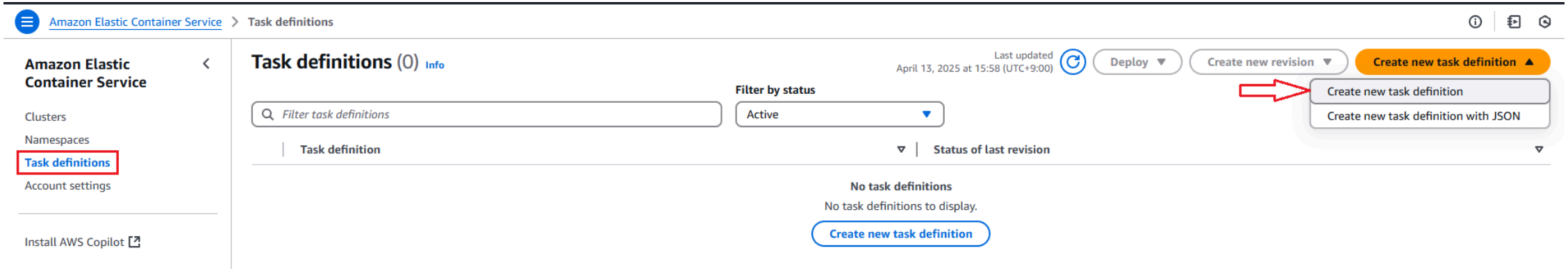


- 생성 확인


Amazon Elastic Container Service
Clusters
Amazon Elastic Container Service
Clusters
Namespaces
Task definitions
Account settings
Install AWS Copilot
Cluster ecs-streamlit-cluster has been created successfully.
View cluster
Clusters (1) Info
Last updated
April 13, 2025 at 15:57 (UTC+9:00)
Create cluster
Search clusters
1
Cluster
Services
Tasks
Container instances
CloudWatch monitoring
Capacity provider strategy
ecs-streamlit-cluster
0
No tasks running
0 EC2
Default
No default found

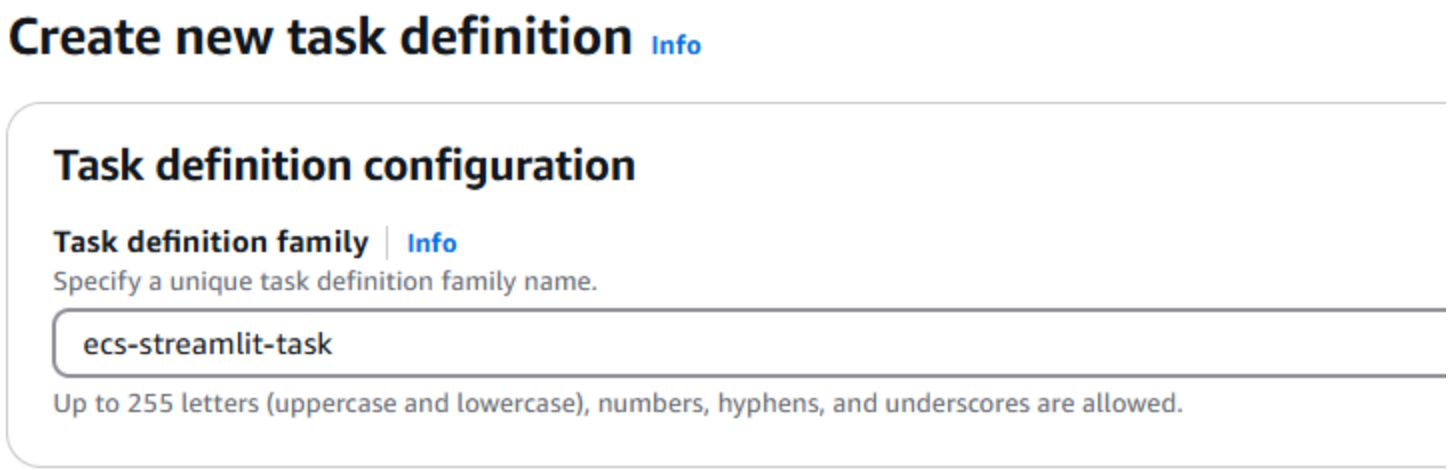
Task definitions

단계1: Create new task definition

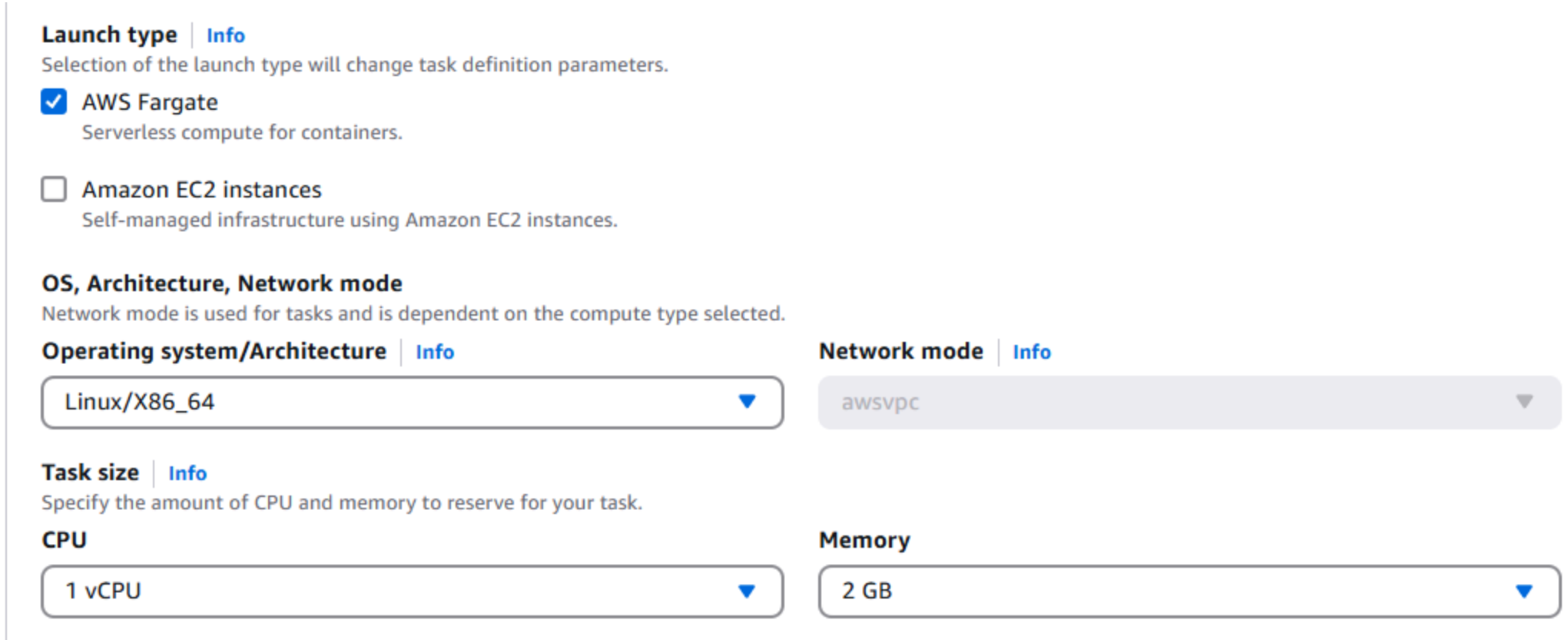


단계2: Task definition configuration

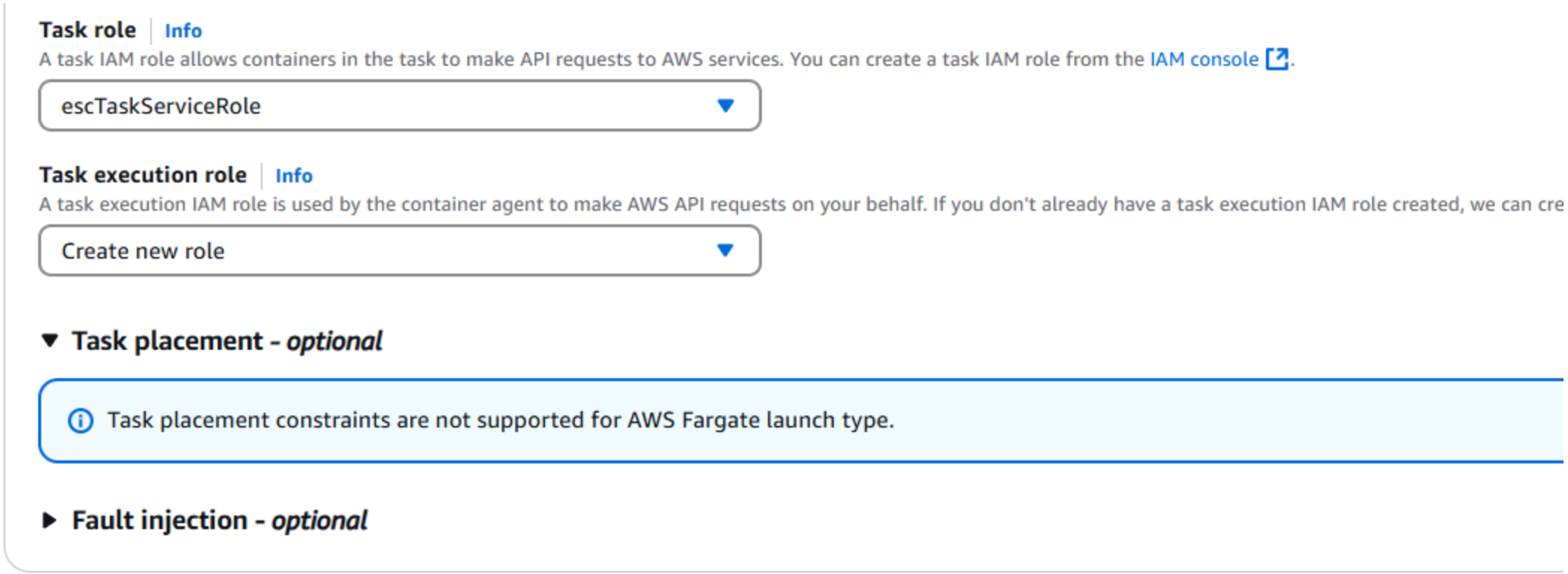
```
ecs-streamlit-task
```



단계3: Infrastructure requirements



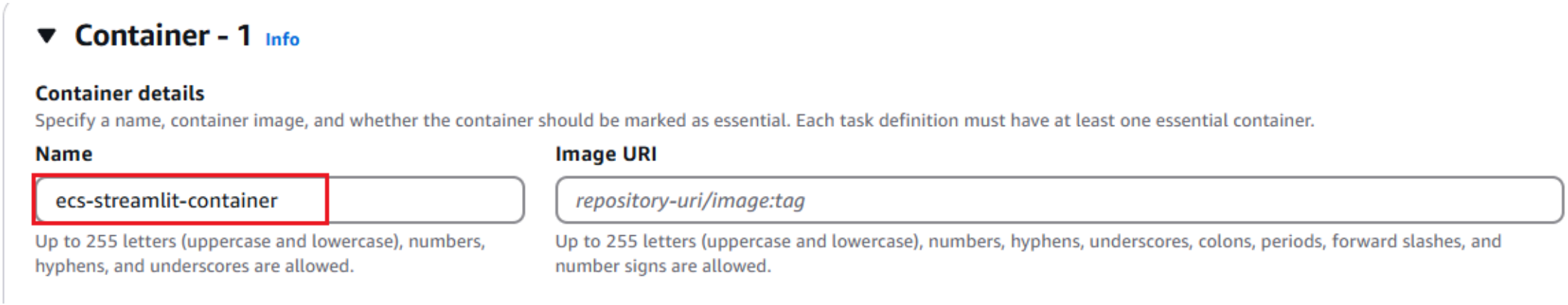
- Task roles


Task role
Info
A task IAM role allows containers in the task to make API requests to AWS services. You can create a task IAM role from the IAM console.
escTaskServiceRole
Task execution role
Info
A task execution IAM role is used by the container agent to make AWS API requests on your behalf. If you don't already have a task execution IAM role created, we can cre
Create new role
Task placement - optional
Task placement constraints are not supported for AWS Fargate launch type.
Fault injection - optional

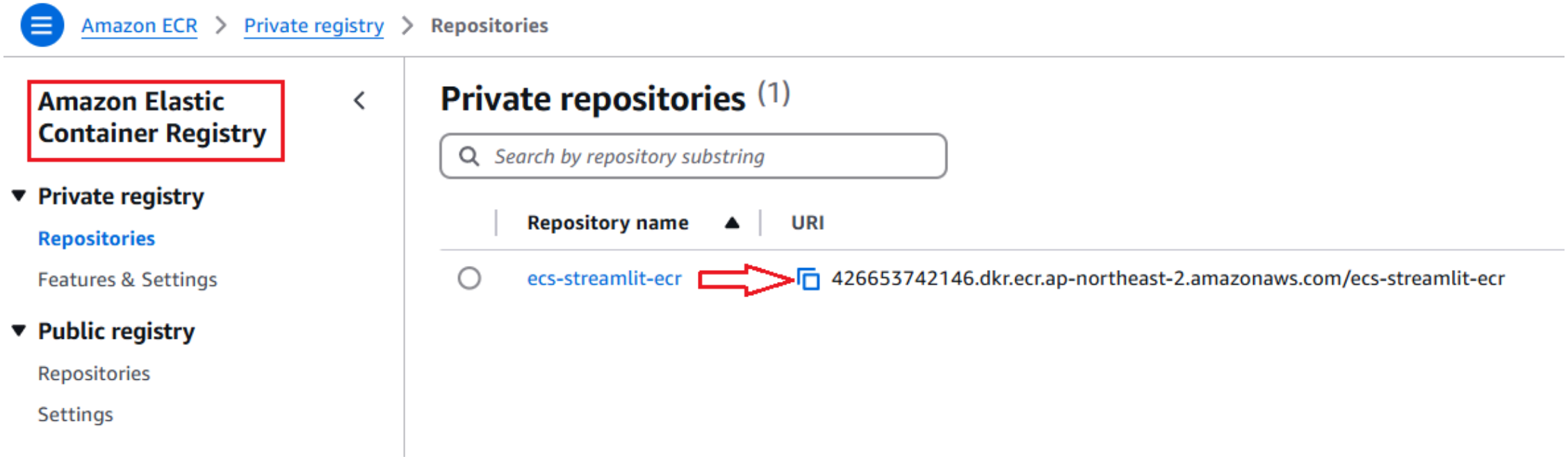
단계4: Container

- Container Name: `buildspec.yml` 에 정의된 이름 작성!

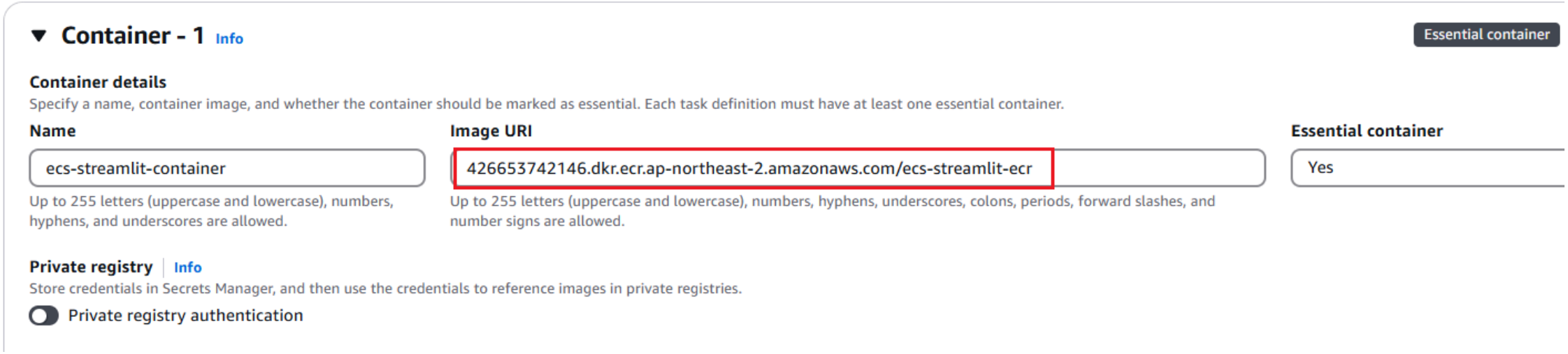
```
version: 0.2
env:
  git-credential-helper: 'yes'
  variables:
    # docker 파라미터 정의
    ECS_CONTAINER_NAME: ecs-streamlit-container
    ...
```



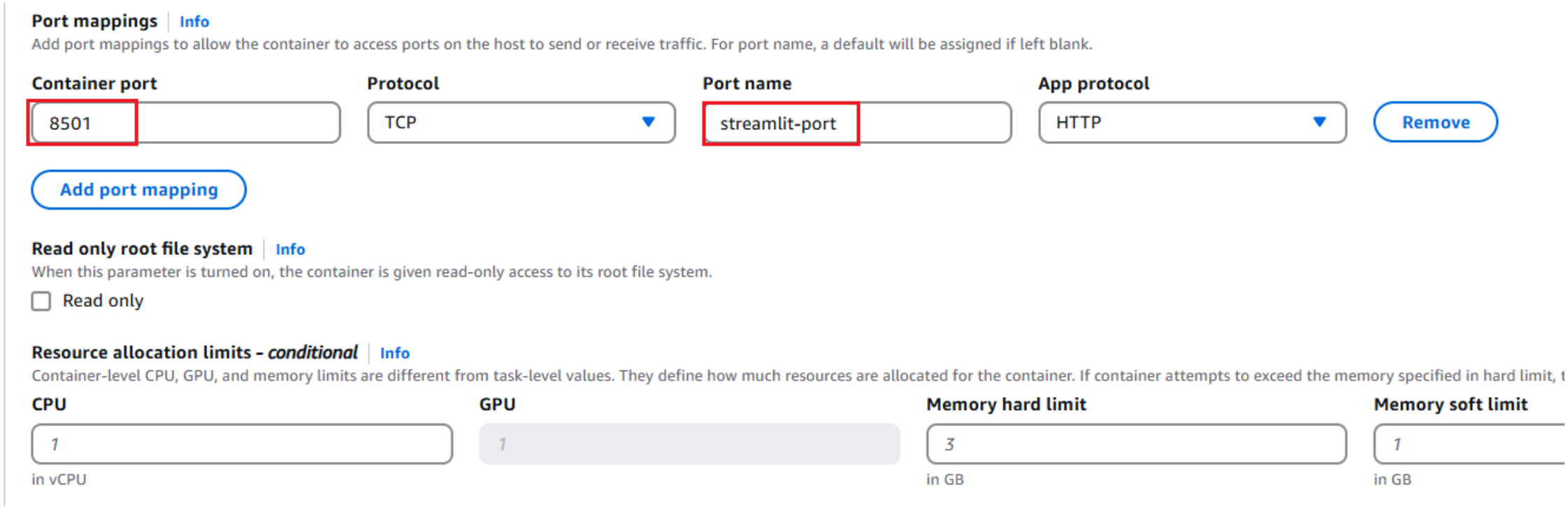
- AWS ECR 접속 > URI 복사



- AWS ECS Container > Image URI에 복사한 `ECR URI` 붙여넣기

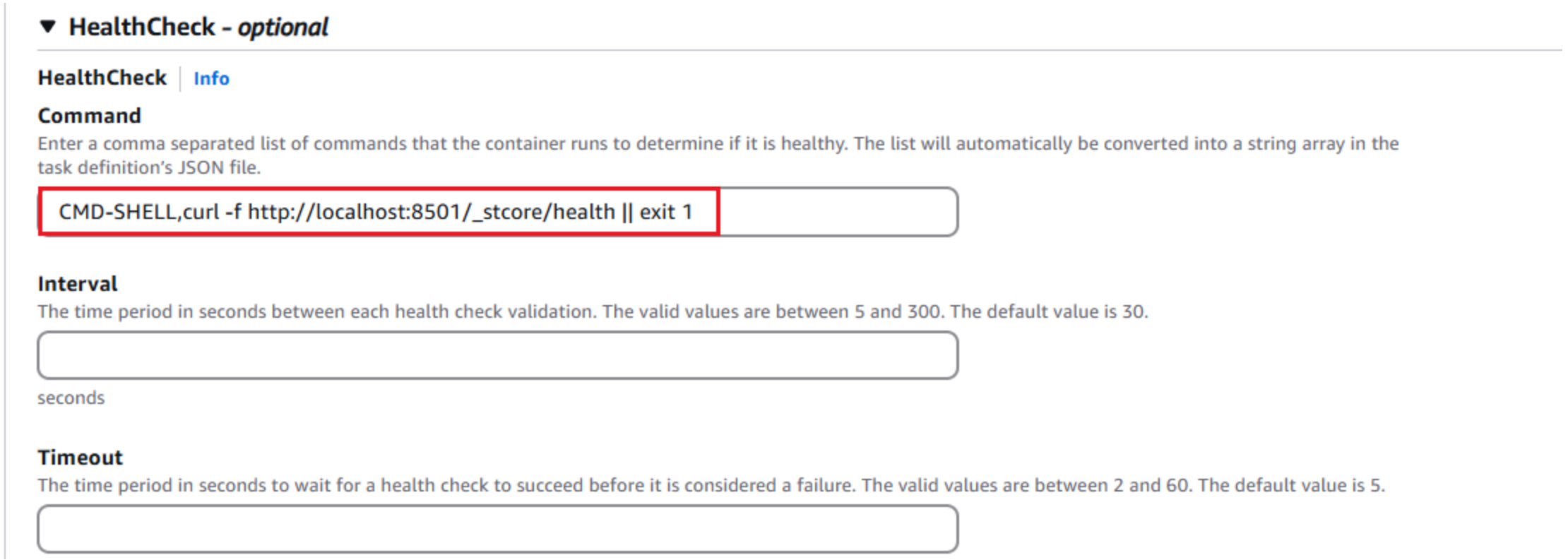


- AWS ECS Container > Port mappings
  - Dockerfile에서 `8501` port로 정의되어 있음.

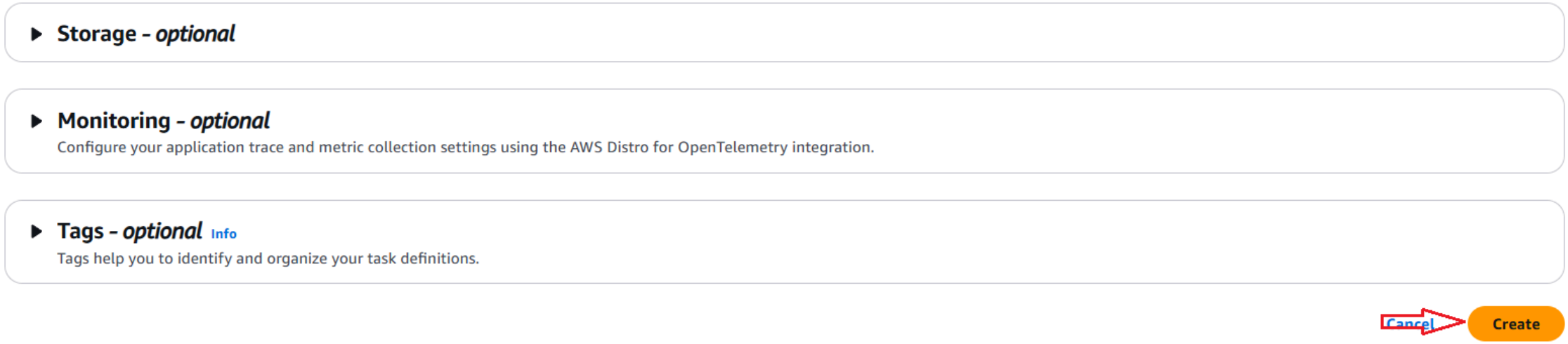


- AWS ECS Container > HealthCheck

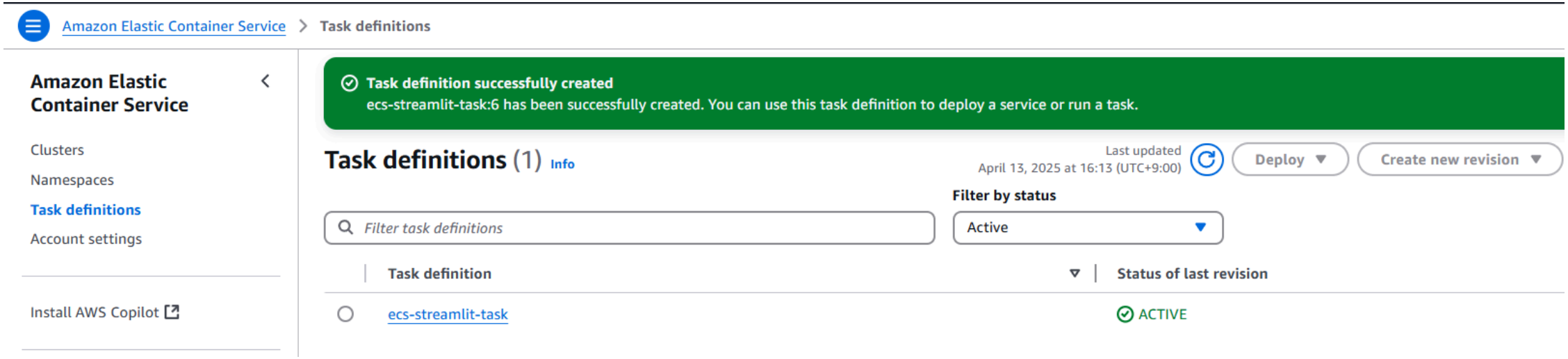
```
CMD-SHELL,curl -f http://localhost:8501/_stcore/health || exit 1
```



단계5: Create


Storage - optional
Monitoring - optional
Configure your application trace and metric collection settings using the AWS Distro for OpenTelemetry integration.
Tags - optional Info
Tags help you to identify and organize your task definitions.
Cancel
Create

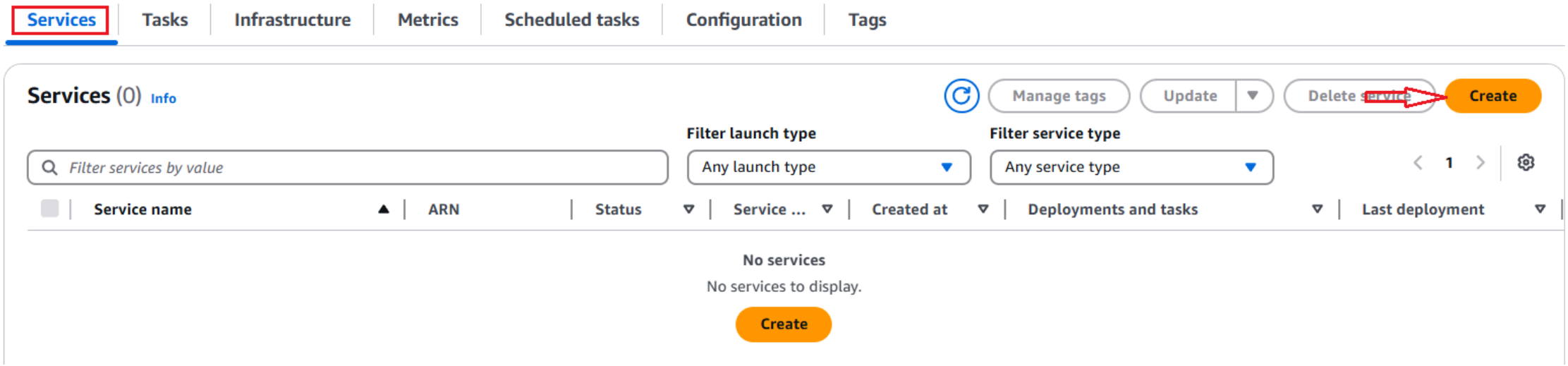
- 결과 확인


Amazon Elastic Container Service
Task definitions
Amazon Elastic Container Service
Clusters
Namespaces
Task definitions
Account settings
Install AWS Copilot
Task definition successfully created
ecs-streamlit-task:6 has been successfully created. You can use this task definition to deploy a service or run a task.
Task definitions (1) Info
Last updated
April 13, 2025 at 16:13 (UTC+9:00)
Deploy
Create new revision
Filter by status
Filter task definitions
Active
Task definition
Status of last revision
ecs-streamlit-task
ACTIVE

Service

단계1: cluster 선택

단계2: Service Create



단계3: Compute configuration

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 ▼

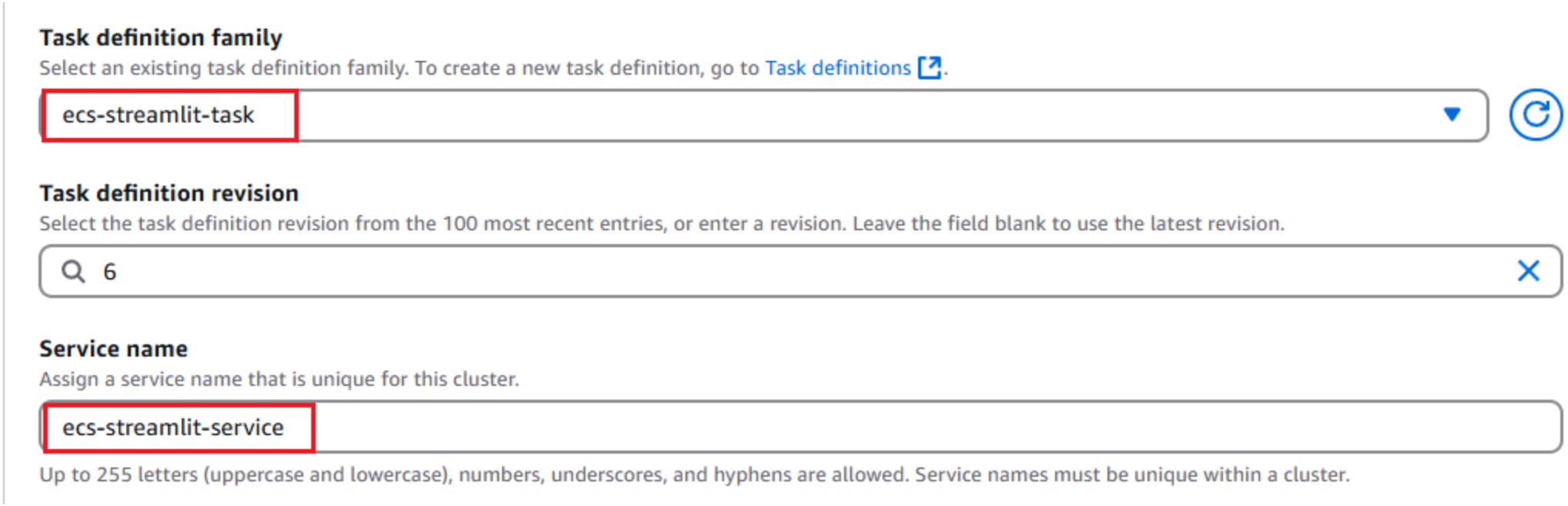
Platform version | Info

Specify the platform version on which to run your service.

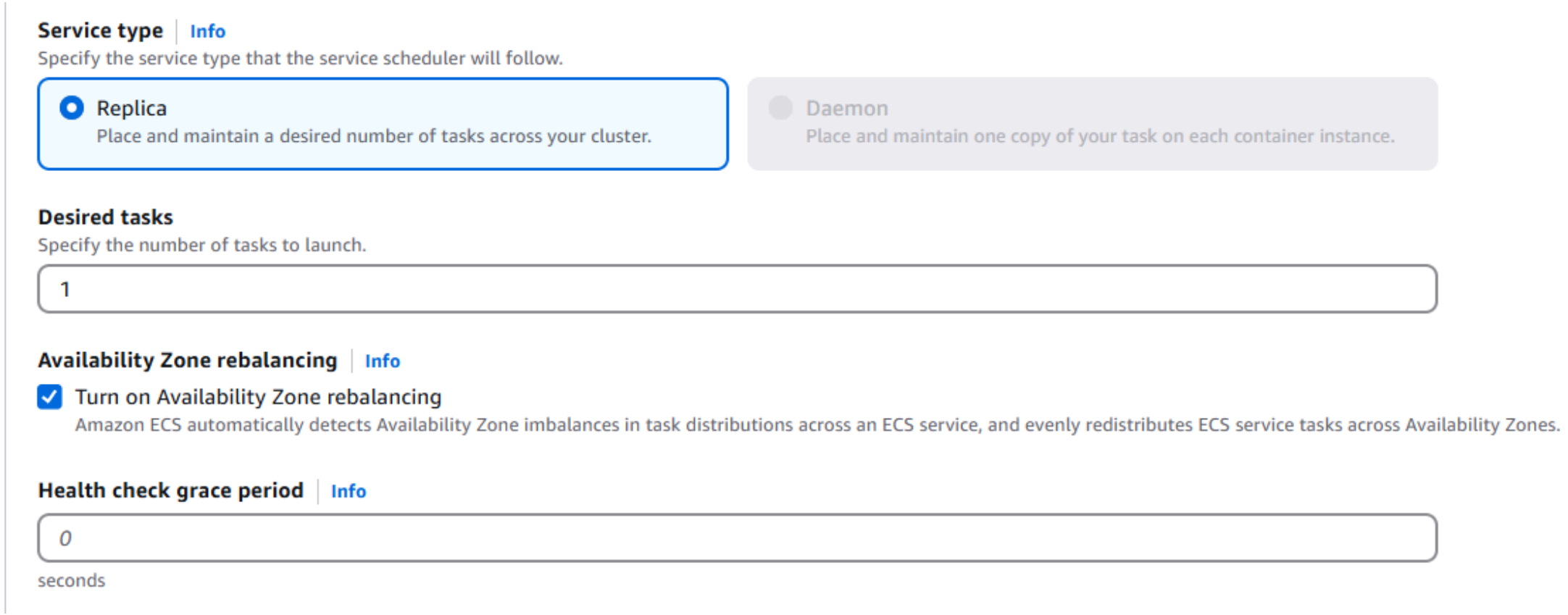
LATEST ▼

단계4: Deployment configuration

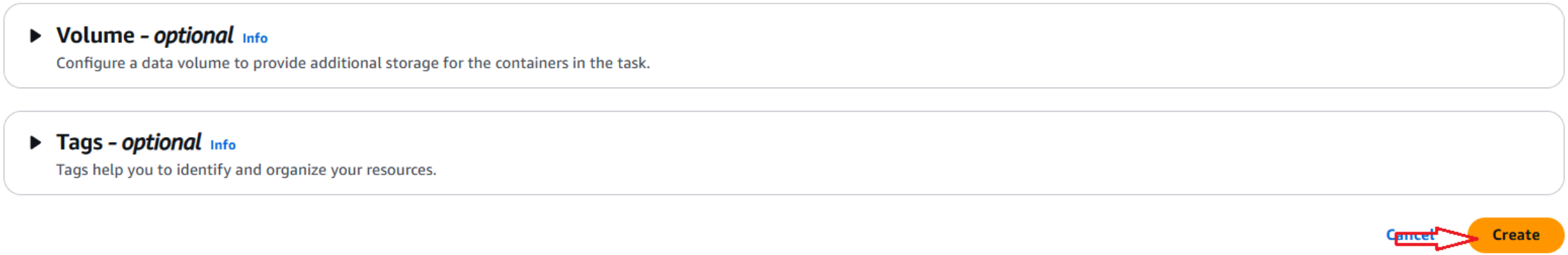
```
ecs-streamlit-service
```



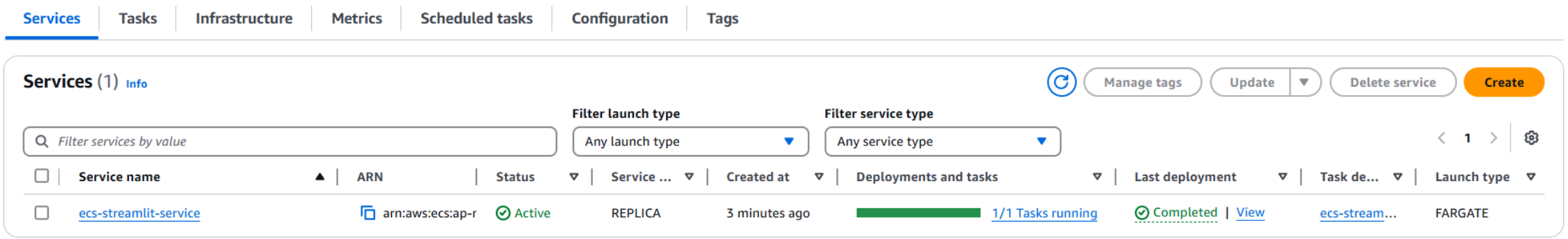
- `Desired tasks` : 정의된 숫자만큼 instance(django server) 유지



단계5: Create

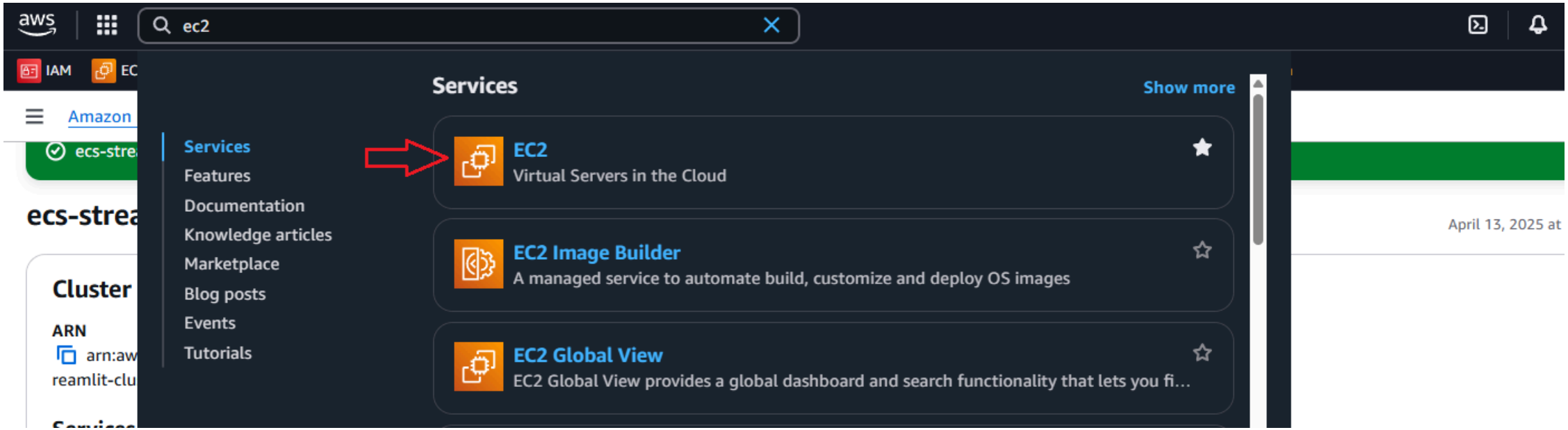

Volume - optional Info
Configure a data volume to provide additional storage for the containers in the task.
Tags - optional Info
Tags help you to identify and organize your resources.
Cancel
Create

- 생성된 결과 확인

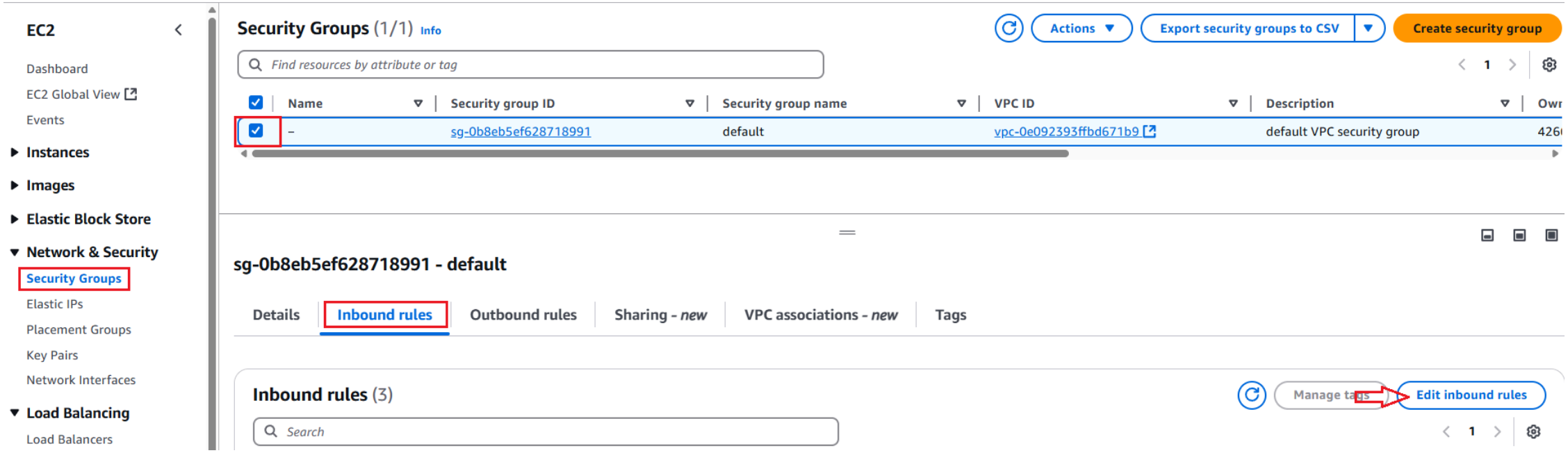

Services
Tasks
Infrastructure
Metrics
Scheduled tasks
Configuration
Tags
Services (1) Info
Manage tags
Update
Delete service
Create
Filter launch type
Filter service type
Filter services by value
Any launch type
Any service type
1
Service name
ARN
Status
Service ...
Created at
Deployments and tasks
Last deployment
Task de...
Launch type
ecs-streamlit-service
arn:aws:ecs:ap-r
Active
REPLICA
3 minutes ago
1/1 Tasks running
Completed | View
ecs-stream...
FARGATE

ECS > streamlit servier 접속

단계1: EC2 접속

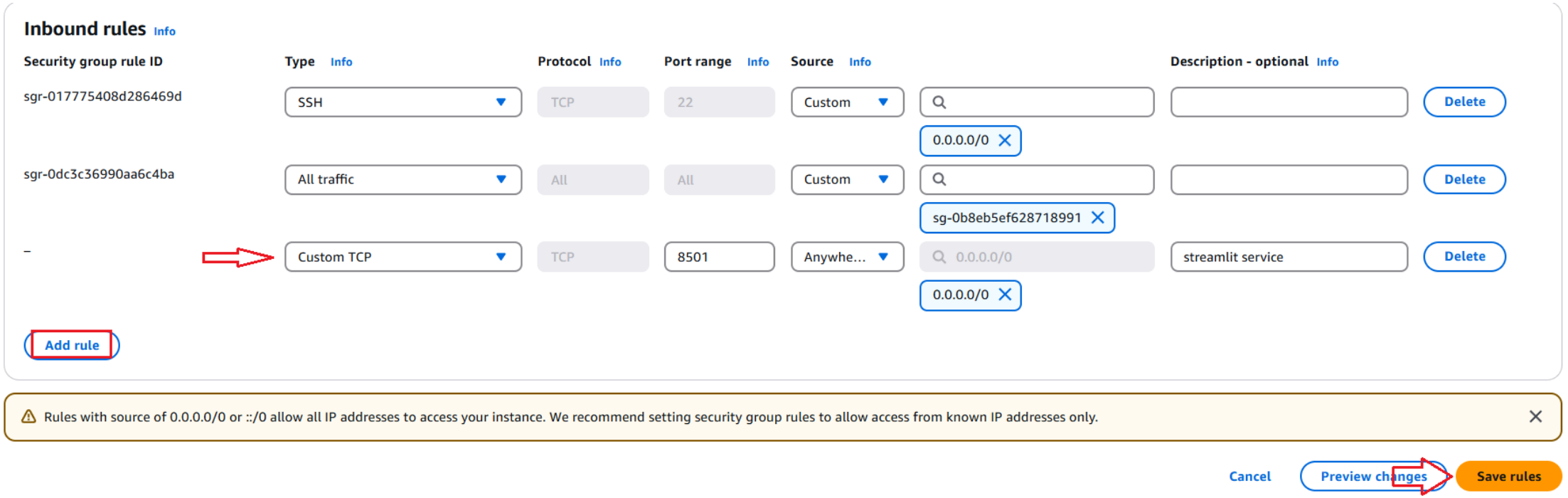

aws
ec2
IAM
Amazon
ecs-strea
Services
Features
Documentation
Knowledge articles
Marketplace
Blog posts
Events
Tutorials
Services
Show more
EC2
Virtual Servers in the Cloud
EC2 Image Builder
A managed service to automate build, customize and deploy OS images
EC2 Global View
EC2 Global View provides a global dashboard and search functionality that lets you fi...
ecs-strea
April 13, 2025 at
Cluster
ARN
arn:aw
reamlit-clu

단계2: Edit inbound rules

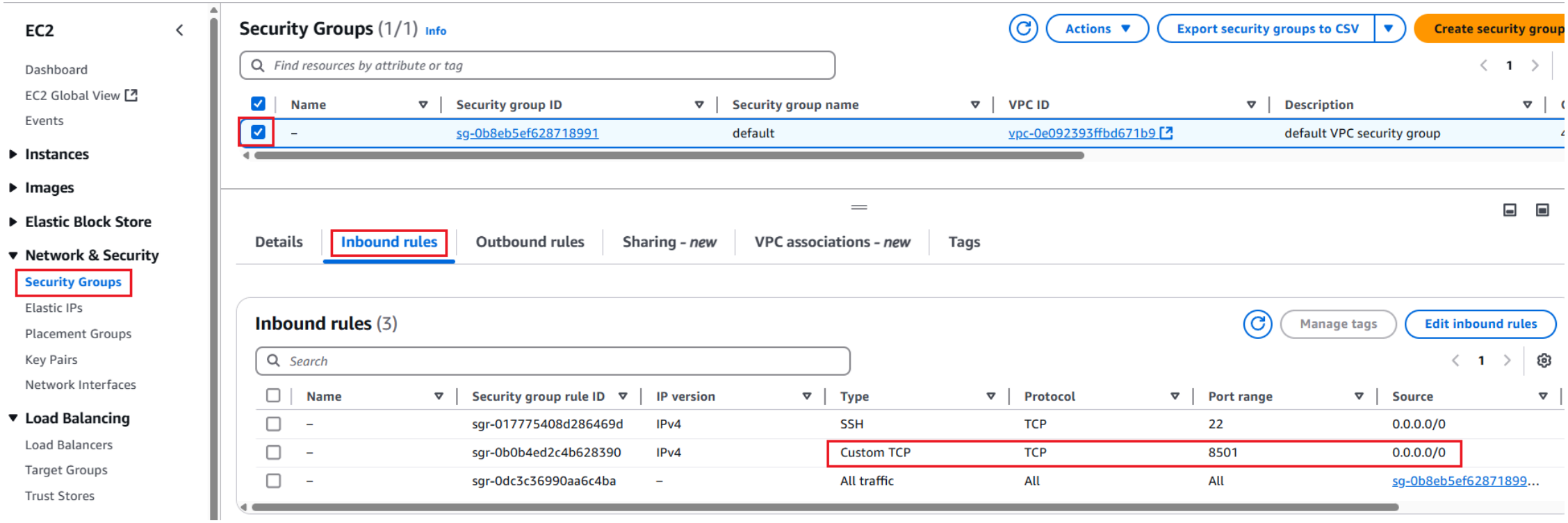


단계3: add streamlit port

```
8501
```

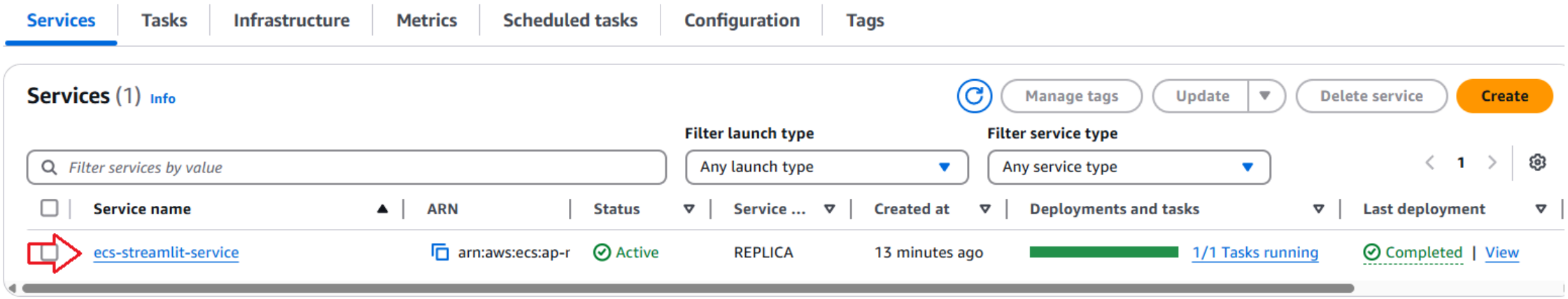


- 결과 확인

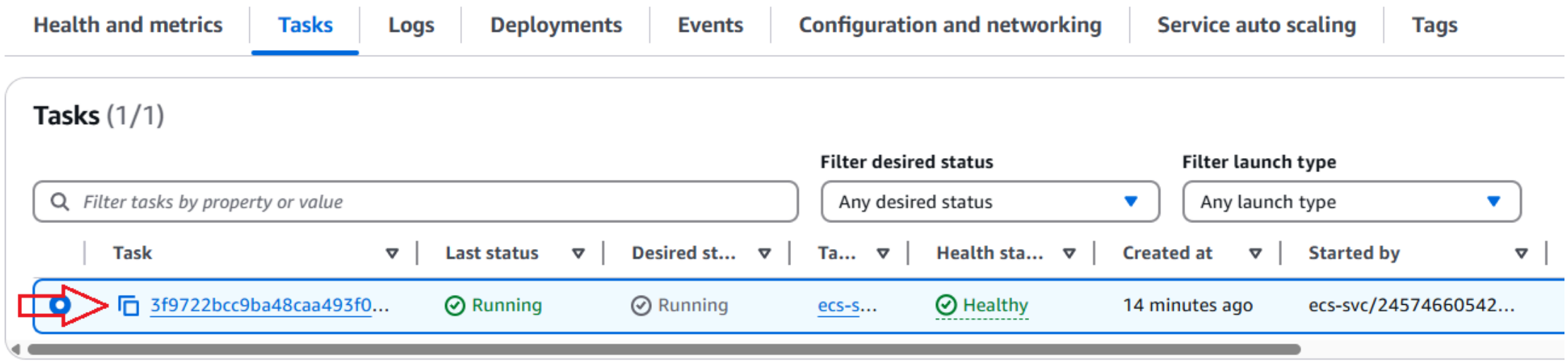

EC2
Dashboard
EC2 Global View
Events
Instances
Images
Elastic Block Store
Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
Load Balancing
Load Balancers
Target Groups
Trust Stores
Security Groups (1/1) Info
Actions
Export security groups to CSV
Create security group
Find resources by attribute or tag
Name
Security group ID
Security group name
VPC ID
Description
sg-0b8eb5ef628718991
default
vpc-0e092393ffbd671b9
default VPC security group
Details
Inbound rules
Outbound rules
Sharing - new
VPC associations - new
Tags
Inbound rules (3)
Manage tags
Edit inbound rules
Search
Security group rule ID
IP version
Type
Protocol
Port range
Source
sgr-017775408d286469d
IPv4
SSH
TCP
22
0.0.0.0/0
sgr-0b0b4ed2c4b628390
IPv4
Custom TCP
TCP
8501
0.0.0.0/0
sgr-0dc3c36990aa6c4ba
All traffic
All
All
sg-0b8eb5ef62871899...

단계4: ECS Cluster 접속

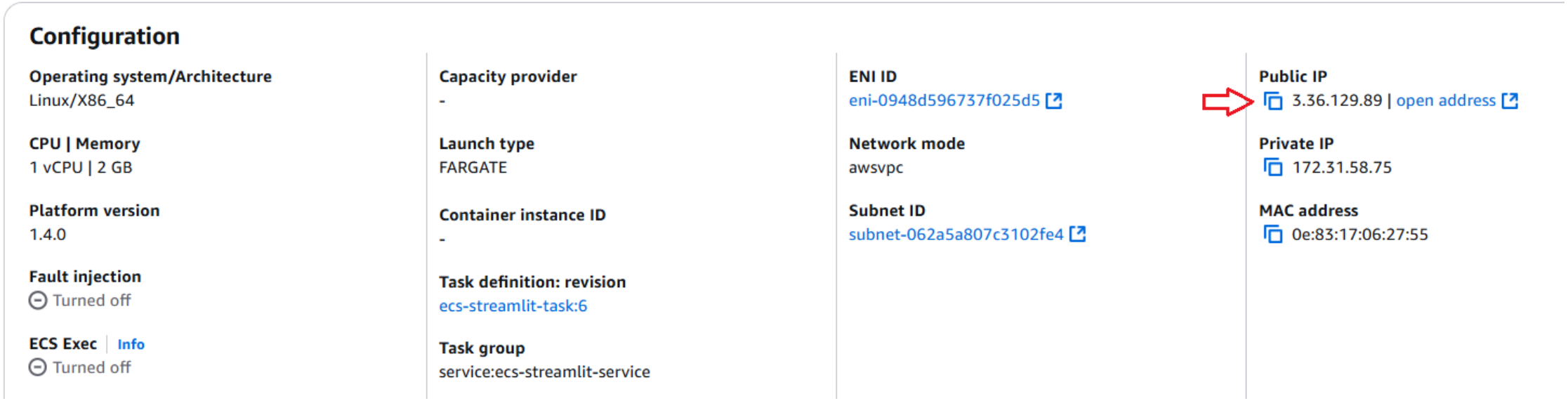
단계5: ECS Service 접속



단계6: ECS Task 접속



단계7: Public IP copied



단계8: 접속 > Public IP:8501

```
http://<public ip>:8501
```