

► Elastic Load Balancing (ELB)

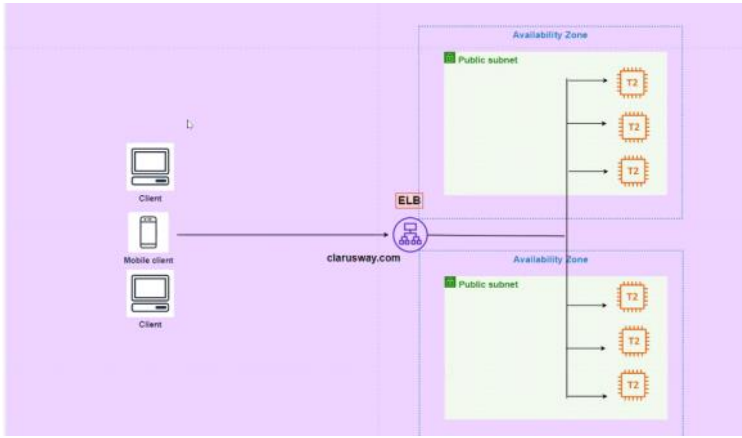
What is Elastic Load Balancing (ELB)?

- Distribute workloads
- Distribute incoming application traffic
- Like traffic police



Genellikle production ortamında yayın yapan web sitemizini kesintiye uğramadan yayın yapmasını isteriz. Ayrıca web sitemize gelen trafiğin arkada çalışan EC2'lara dengeli bir şekilde dağıtılmasını arzu edilen bir durumdur. Loadbalancer'lar bu amaç için uygulanacak network çözümleridir.

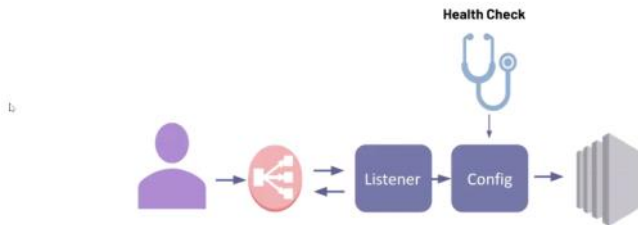
Loadbalancerlar gelen trafiğin dengeli bir şekilde arkada çalışan pc'lerinize dengeli bir şekilde dağıtılmasını sağlar. Makinalardan birinde bir sorun olması durumunda gelen trafiği kalan makinalara dengeli bir şekilde dağıtır. Böylelikle hem gecikme süreleri azaltılmış olur.



Biz bugün Application Load Balancing üzerinde duracağız

► Elastic Load Balancing (ELB)

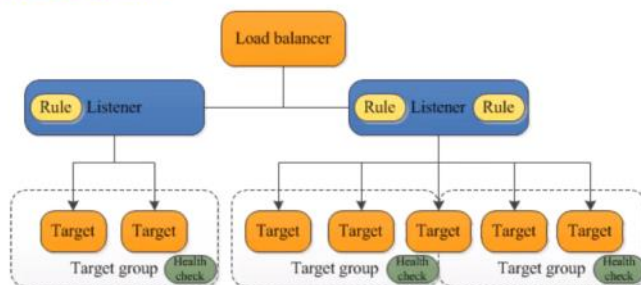
How ELB works?



Belirli componentler mevcut. Bir tane listener tanımlıyoruz ve listener a bir veya birden fazla rol veriyoruz. Listener servera gelen talepleri hangi porttan yayın yapıyorsa listener o portu dinlemeye başlıyor. Aşağıdaki birden fazla target grubuna ec2 tanımlıyabiliyoruz. Load balancer belli aralıklarla targetlara ping gönderiyor. Eğer geri dönüşü alırsa healthy olarak tanımlıyor ve bu EC2'ye gelen requestleri göndermeye devam ediyor. Eğer unhealthy ise request göndermiyor.

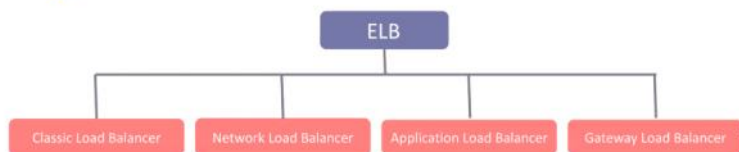
► Elastic Load Balancing (ELB)

How ELB works?



► Elastic Load Balancing (ELB)

Types of ELB



► Elastic Load Balancing (ELB)

	Application Load Balancer	Network Load Balancer	Classic Load Balancer	Gateway Load Balancer
Protocol	HTTP, HTTPS	TCP, TLS, UDP	HTTP, HTTPS and TCP, TLS/SSL	IP
Use case	Control of HTTP and HTTPS traffic.	TCP traffic when high performance is required.	Classic Load Balancer can do what others do	Gateway for distributing traffic across multiple virtual appliances

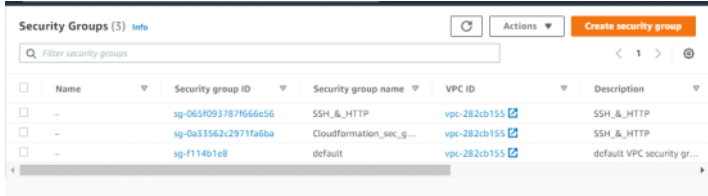
► Elastic Load Balancing (ELB)

Health Checking

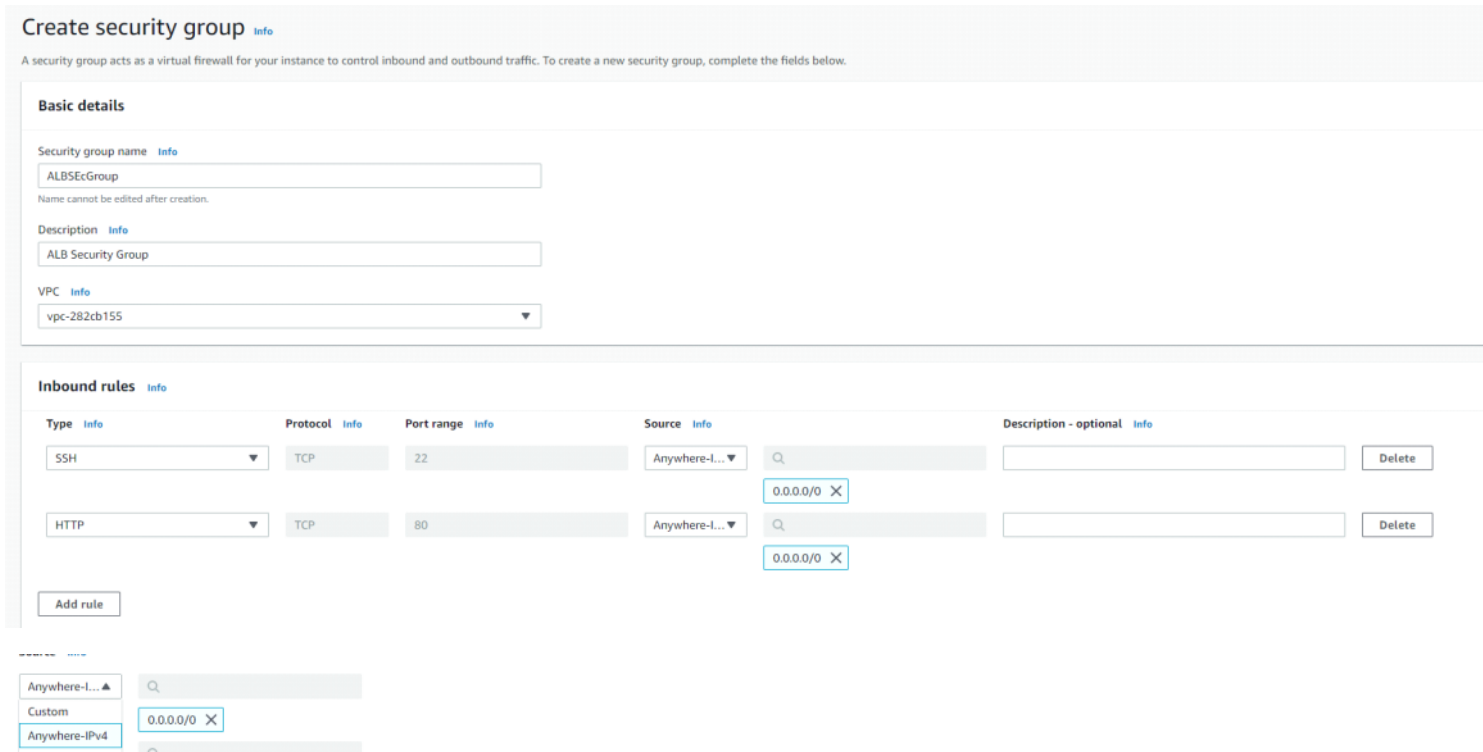


Application Load Balancer ==> target group olusturacagiz. Daha sonra launch template olusturacagiz yani kalip uretimi yapacagiz. 7 adim yerine tek kaliple belli bir sayida instance olusturup target group icerisine ekleyecegiz ve load balancer create edecegiz.

- EC2 lari
 - o Tek tek yani manuel olarak
 - o Launch template ile
 - o Cloud formation
 - o CLI ile olusturabiliyoruz
- Oncelikle security group olusturacagiz. HTTP ve SSH inbound lari anywhere olarak secip create ediyoruz. Inbound otomatik outbound olarak geciyor.



Name	Security group ID	Security group name	VPC ID	Description
-	sg-065f093787f66e56	SSH_&_HTTP	vpc-282cb155	SSH_&_HTTP
-	sg-0a33562c2971fa6ba	CloudFormation_sec_g...	vpc-282cb155	SSH_&_HTTP
-	sg-f114b1e8	default	vpc-282cb155	default VPC security gr...



Create security group

A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.

Basic details

Security group name: ALBSEcGroup
Description: ALB Security Group
VPC: vpc-282cb155

Inbound rules

Type	Protocol	Port range	Source	Description - optional
SSH	TCP	22	Anywhere-I...	
HTTP	TCP	80	Anywhere-I...	

0.0.0.0/0 X

0.0.0.0/0 X

Add rule

Anywhere-I... X

Custom 0.0.0.0/0 X

Anywhere-IPv4

- Launch template olusturacagiz. Bizim instancelerimize belirli bir kaliba sokuyoruz
- Cloudformation ile launchtemplate arasindaki fark?

Instances
Instances new
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances new
Dedicated Hosts
Scheduled Instances
Capacity Reservations

New launch template

Create launch template

Create launch template

Creating a launch template allows you to create a saved instance configuration that can be reused, shared and launched at a later time. Templates can have multiple versions.

Launch template name and description

Launch template name - required

My_launch_template

Must be unique to this account. Max 128 chars. No spaces or special characters like %, *, ", \, |, ~, ^, &, ~, ^, &.

Template version description

MyTemplate

Max 255 chars

Auto Scaling guidance [info](#)

Select this if you intend to use this template with EC2 Auto Scaling

☐ Provide guidance to help me set up a template that I can use with EC2 Auto Scaling

► Template tags

► Source template

Launch template contents

Specify the details of your launch template below. Leaving a field blank will result in the field not being included in the launch template.

▼ Amazon machine image (AMI) [info](#)

AMI

Amazon Linux 2 AMI (HVM), SSD Volume Type

ami-0a2d478b79a1215a

Catalog: Quick Start - virtualization: hvm architecture: 64-bit (x86)

Launch template contents

Specify the details of your launch template below. Leaving a field blank will result in the field not being included in the launch template.

▼ Amazon machine image (AMI) [info](#)

AMI

Amazon Linux 2 AMI (HVM), SSD Volume Type

ami-0a2d478b79a1215a

Catalog: Quick Start - virtualization: hvm architecture: 64-bit (x86)

▼ Key pair (login) [info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name

EC2_key

[Create new key pair](#)

Daha once olusturdugumuz secgroup u seciyoruz

▼ Network settings [info](#)

Networking platform [info](#)

☒ Virtual Private Cloud (VPC)
Launch into a virtual network in your own logically isolated area within the AWS Cloud

☐ EC2-Classic
Launch into a single flat network that you share with other customers.

Security groups

Select security groups

Q |

Specify a custom value...

ALBSEcGroup

VPC: vpc-282a155

sg-05c7cd7859c21ad0

SSH & HTTP

VPC: vpc-282a155

sg-065f0937b7f666c56

Cloudformation_sec_group

VPC: vpc-282a155

sg-0a35562c2971fa6ba

default

VPC: vpc-282a155

sg-f114b1e8

▼ Storage (volumes) [info](#)

▼ Volume 1 (AMI Root)

AMI volumes are not included in the template unless modified

Volume type [info](#)

EBS

Device name - required [info](#)

/dev/xvda

Snapshot [info](#)

snap-03e9050b362f59715

Size (GiB) [info](#)

8

Volume type [info](#)

gp2

IOPS [info](#)

2000

Delete on termination [info](#)

Yes

Encrypted [info](#)

No

Key [info](#)

MyKey

[Add new volume](#)

▼ Resource tags [info](#)

Key [info](#)

Value [info](#)

Resource types [info](#)

Q | Name X

Q | ALB_Target_inst X

Select resource types

☒ Instances

☒ Volumes

☐ Elastic graphics

☐ Spot instance requests

☒ Network interfaces

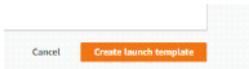
[Add tag](#)

49 remaining (Up to 50 tags maximum)

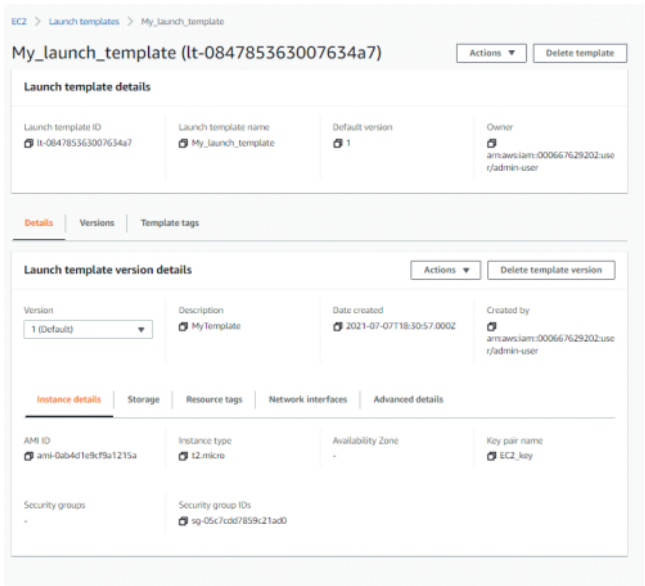
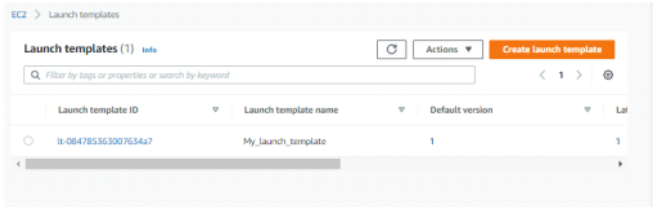
- Userdata (Advanced details icerisine) kismina readme deki kod blogunu yapistiriyoruz
- Html dosyasinda yourname kismina kendi ismimizi yazabiliriz
- Diger ayarlarimiz default olarak kalacak

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/instance-data-retrieval.html> ==> metadata hakkında bilgi

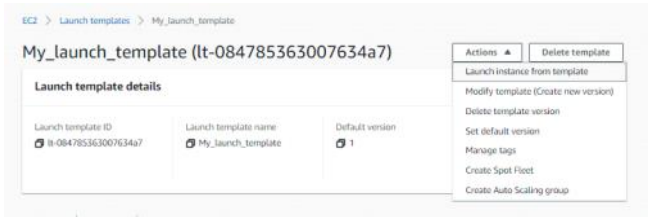
```
#!/bin/bash
#update os
yum update -y
#install apache server
yum install -y httpd
# get private ip address of ec2 instance using instance metadata
TOKEN="curl -X PUT "http://169.254.169.254/latest/api/token" -H "X-aws-ec2-
metadata-token-ttl-seconds: 21600" \
&& PRIVATE_IP="curl -H "X-aws-ec2-metadata-
token: $TOKEN" http://169.254.169.254/latest/meta-data/local-ipv4"
# get public ip address of ec2 instance using instance metadata
TOKEN="curl -X PUT "http://169.254.169.254/latest/api/token" -H "X-aws-ec2-
metadata-token-ttl-seconds: 21600" \
&& PUBLIC_IP="curl -H "X-aws-ec2-metadata-
token: $TOKEN" http://169.254.169.254/latest/meta-data/public-ipv4"
# get date and time of server
DATE_TIME="date"
# set all permissions
chmod -R 777 /var/www/html
# create a custom index.html file
echo "<html>
<head>
<title> Congratulations! You have created an instance from Launch Template
</title>
</head>
<body>
<h1>This web server is launched from launch template by YOUR_NAME</h1>
<p>This instance is created at <b>$DATE_TIME</b></p>
<p>Private IP address of this instance is <b>$PRIVATE_IP</b></p>
<p>Public IP address of this instance is <b>$PUBLIC_IP</b></p>
</body>
</html>" > /var/www/html/index.html
# start apache server
systemctl start httpd
systemctl enable httpd
```



- Olusturdugumuz templatemiz gorselde;



- ACTIONS / LAUNCH ... SECIYORUZ



- 3 TEMPLATE OLUSTURACAGIZ

Launch instance from template

Launching from a template allows you to launch from an instance configuration that you would have saved in the past. These saved configurations can be reused and shared with other users to standardize launches across an organisation.

Choose a launch template

Source template

My_launch_template
ID: i-08478535330763427

Source template version

1 (Default)
MyTemplate

Number of instances

3

Cancel

Launch instance from template

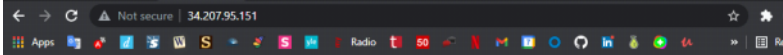
View launch templates

- Olusturduguz 3 adet instance;

Instances (3) <small>Info</small>							Connect	Instance state	Actions	Launch instances
Filter instances										
<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status				
<input type="checkbox"/>	ALB_Target_instance	i-0ad2776e392006b11d	Running	t2.micro	Initializing	No alarms				
<input type="checkbox"/>	ALB_Target_instance	i-093a22040a6d4eb2	Running	t2.micro	Initializing	No alarms				
<input type="checkbox"/>	ALB_Target_instance	i-0088e01d5ce22513e	Running	t2.micro	Initializing	No alarms				

- Instance' nin public adresini aliyoruz. Ve browsera yapistiriyoruz. Linkte guvenli olmasi https olarak default acilacaktır ve bastaki 's' silinebilir.

Public IPv4 address
34.207.95.151 open address
Public IPv4 DNS
ec2-34-207-95-151.compute-1.amazonaws.com open address



This web server is launched from launch template by Abdulhamid GOKCE

This instance is created at Wed Jul 7 18:39:26 UTC 2021

Private IP address of this instance is 172.31.82.146

Public IP address of this instance is 34.207.95.151

- Bir tane instance'a VS coddan baglanalim asagidaki kodu yapistiralim

==> curl <http://169.254.169.254/latest/meta-data/>

Bu kod bize ... Gosterir

- Olusturdugumuz 3 instance yi target grubu olusturarak icerisine ekleyecegiz. AWS dashboard da gorulebilir.

Load Balancing

Load Balancers

Target Groups New

EC2 > Target groups							Actions	Create target group
Search or filter target groups								
<input type="checkbox"/>	Name	ARN	Port	Protocol	Target type			
No target groups to display.								

Specify group details

Your load balancer routes requests to the targets in a target group and performs health checks on the targets.

Basic configuration

Choose a target type

Instances

- Supports load balancing to instances within a specific VPC.

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.

Lambda function

- Facilitates routing to a single Lambda function.
- Accessible to Application Load Balancers only.

Target group name

ALB-TG

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-283b1155
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.

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 ping the root, or specify a custom path if preferred.

/

Up to 1024 characters allowed.

Advanced health check settings

Restore defaults

Port

This port the load balancer uses when performing health checks on targets. The default is the port on which each target receives traffic from the load balancer, but you can specify a different port.

Traffic port

Override

Healthy threshold

The number of consecutive health check successes required before considering an unhealthy target healthy.

5

2-10

Unhealthy threshold

The number of consecutive health check failures required before considering a target unhealthy.

2

2-10

Timeout

The amount of time, in seconds, during which no response means a failed health check.

5

seconds

2-120

Interval

The approximate amount of time between health checks of an individual target.

30

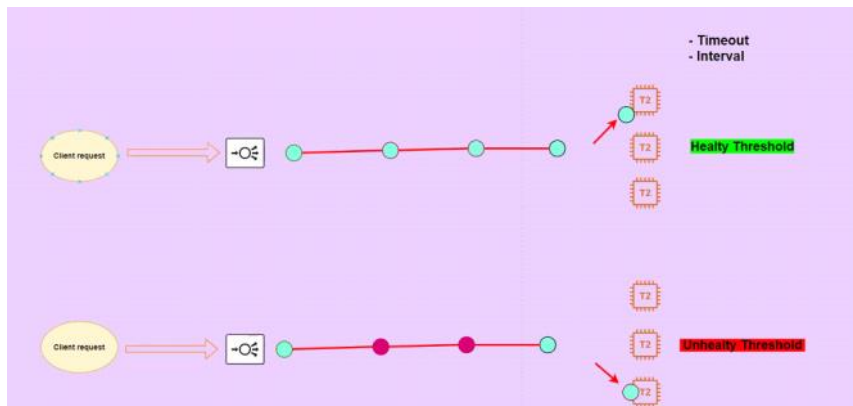
seconds

5-300

Success codes

The HTTP codes to use when checking for a successful response from a target. You can specify multiple values (for example, "200,202") or a range of values (for example, "200-299").

200



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 ping the root, or specify a custom path if preferred.
/

Up to 1024 characters allowed.

Advanced health check settings

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

Register targets

Available instances (3)

Filter resources by property or value

Instance ID	Name	State	Security groups	Zone	Subnet ID
i-0d0776c392006b11d	ALB_Target_instanc	running	ALBSEcGroup	us-east-1c	subnet-D6eda227
i-091a22040a6df4eb2	ALB_Target_instanc	running	ALBSEcGroup	us-east-1c	subnet-D6eda227
i-0088e01d5ce22513e	ALB_Target_instanc	running	ALBSEcGroup	us-east-1c	subnet-D6eda227

0 selected

Ports for the selected instances
Ports for routing traffic to the selected instances (separate multiple ports with comma)
80

Include as pending below

Targets (0)

Remove all pending

Filter resources by property or value

Remove Health status Instance ID Name Port State Security groups Zone Subnet ID

No instances added yet
Specify instances above, or leave the group empty if you prefer to add targets later.

0 pending Cancel Previous Create target group

Available instances deki cihazların basına tik koyup include as pending below tikla ve sonra create target group tikla

Successfully created target group ALB-TG

EC2 > Target groups

Target groups (1/1) info

Search or filter target groups

Create target group

ALB-TG

arn:aws:elasticloadbalancing:us-east-1:000667629202:targetgroup/ALB-TG/1ef16b37706dbf7e

Details Targets Monitoring Health checks Attributes Tags

Registered targets (3)

Filter resources by property or value

Instance ID	Name	Port	Zone	Health status	Health status details
i-0088e01d5ce22513e	ALB_Target_instanc	80	us-east-1c	unused	Target group is not configured to receive traffic from the load balancer
i-0d0776c392006b11d	ALB_Target_instanc	80	us-east-1c	unused	Target group is not configured to receive traffic from the load balancer
i-091a22040a6df4eb2	ALB_Target_instanc	80	us-east-1c	unused	Target group is not configured to receive traffic from the load balancer

Bu işlemle instanceleri target gruplarına eklemis olduk.

ALB-TG

arn:aws:elasticloadbalancing:us-east-1:000667629202:targetgroup/ALB-TG/1ef16b37706dbf7e

Details Targets Monitoring Health checks Attributes Tags

Registered targets (3/3)

Filter resources by property or value

Instance ID	Name	Port	Zone	Health status	Health status details
i-0088e01d5ce22513e	ALB_Target_instanc	80	us-east-1c	unused	Target group is not configured to receive traffic from the load balancer
i-0d0776c392006b11d	ALB_Target_instanc	80	us-east-1c	unused	Target group is not configured to receive traffic from the load balancer
i-091a22040a6df4eb2	ALB_Target_instanc	80	us-east-1c	unused	Target group is not configured to receive traffic from the load balancer

- Secip register targets diyoruz

EC2 > Target groups > ALB-TG

ALB-TG

arn:aws:elasticloadbalancing:us-east-1:1000667629202:targetgroup/ALB-TG/1ef16a3f706dbf7e

Details

Target type: Instance	Protocol: Port: HTTP: 80	Protocol version: HTTP1	VPC: vpc-282ub155
Load balancer: -			

Total targets	Healthy	Unhealthy	Unused	Initial	Draining
3	0	0	3	0	0

Targets | Monitoring | Health checks | Attributes | Tags

Registered targets (3/3)

Filter resources by property or value

<input checked="" type="checkbox"/>	Instance ID	Name	Port	Zone	Health status	Health status details
<input checked="" type="checkbox"/>	i-0088a01d5c22513e	ALB_Target_Instance	80	us-east-1c	unused	Target group is not configured to receive traffic from the load balancer
<input checked="" type="checkbox"/>	i-0d0776e192006a11d	ALB_Target_Instance	80	us-east-1c	unused	Target group is not configured to receive traffic from the load balancer
<input checked="" type="checkbox"/>	i-095a22d46d46b2	ALB_Target_Instance	80	us-east-1c	unused	Target group is not configured to receive traffic from the load balancer

- Target group da hazir simdi loadbalancer olusturacagiz. AWS konsolu icerisindedir.

Load Balancing

Load Balancers

Target Groups [new](#)

- Create load balancer

Create Load Balancer Actions

Filter by tags and attributes or search by keyword

None found

Name	DNS name	State	VPC ID	Availability Zones	Type
You do not have any load balancers in this region.					

Application Load Balancer	Network Load Balancer	Gateway Load Balancer	Classic Load Balancer
<p>HTTP HTTPS</p> <p>Create</p> <p>Choose an Application Load Balancer when you need a flexible feature set for your web 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.</p> <p>Learn more ></p>	<p>TCP TLS UDP</p> <p>Create</p> <p>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 application. Operating at the connection level, Network Load Balancers are capable of handling millions of requests per second securely while maintaining ultra-low latencies.</p> <p>Learn more ></p>	<p>IP</p> <p>Create</p> <p>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.</p> <p>Learn more ></p>	<p>PREVIOUS GENERATION for HTTP, HTTPS, and TCP</p> <p>Create</p> <p>Choose a Classic Load Balancer when you have an existing application running in the EC2-Classical network.</p> <p>Learn more ></p>

-Application Load Balancer

Application Load Balancer

HTTP
HTTPS

Create

Choose an Application Load Balancer when you need a flexible feature set for your web 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.

[Learn more >](#)

- Bizim yapacagimiz HTTP üzerinden bir dagitim olacagi icin bu sebeple Application Load Balancer kullanacagiz
- Name atadik (alttaki resimde Scheme bolumunun bir ustunde kalmistir)
- Availability zones bolumundeki zonelerin hepsini seciyoruz

Step 1: Configure Load Balancer

Scheme ☒ Internet-facing
☐ Internal

IP address type

Listeners

A listener is a process that checks for connection requests, using the protocol and port that you configured.

Load Balancer Protocol	Load Balancer Port
HTTP	80

Add listener

Availability Zones

Specify the Availability Zones to enable for your load balancer. The load balancer routes traffic to the targets in these Availability Zones only. You can specify on subnets from at least two Availability Zones to increase the availability of your load balancer.

VPC

Availability Zones

- ☒ us-east-1a Assigned by AWS
- ☒ us-east-1b Assigned by AWS
- ☒ us-east-1c Assigned by AWS
- ☒ us-east-1d Assigned by AWS
- ☒ us-east-1e Assigned by AWS
- ☒ us-east-1f Assigned by AWS

Internet facing ==> eger disardan gelen bir trafigi load balancer in dagitmasini istiyorsak;

Internal ==> bizim yapimiz internal bir yapi ise yani icte bir vpc(virtual private cloud) icerisinde yuk dagitimi istiyorsak

Listeners ==> hangi porttan bizim trafigimiz izlenecek ayrica https sertifikamiz varsa add listener kismindan ekleme yapabiliriz

Aws en az iki tane Availability Zones zorunlu tutmaktadir.

- Next

Cancel Next: Configure Security Settings

- Guvenli bir listener kullanmadigimiz icin uyarı alacagiz. Http ile actigimiz icin uyarı metni aldik. Ama https secseydik bu uyarı olmayacaktik.

Step 2: Configure Security Settings

Improve your load balancer's security. Your load balancer is not using any secure listener.
 If your traffic to the load balancer needs to be secure, use the HTTPS protocol for your front-end connection. You can go back to the first step to add/configure secure listeners under [Basic Configuration](#) section. You can also continue with current settings.

- Next

Cancel Previous Next: Configure Security Groups

- Daha once olusturdugumuz security group seciyoruz.

Step 3: Configure Security Groups

A security group is a set of firewall rules that control the traffic to your load balancer. On this page, you can add rules to allow specific traffic to reach your load balancer. First, decide whether to create a new security group or select an existing one.

Assign a security group ☐ Create a new security group
☒ Select an existing security group

Filter

Security Group ID	Name	Description	Actions
sg-05c70d67859c21a90	ALBSECGroup	ALB Security Group	Copy to new
sg-0a33562c2971fa6ba	Cloudformation_sec_group	SSH_8_HTTP	Copy to new
sg-f114b1e8	default	default VPC security group	Copy to new
sg-065893787866e56	SSH_8_HTTP	SSH_8_HTTP	Copy to new

- Next

Cancel Previous Next: Configure Routing

- Asagida trafigi nasil yonlendirecegimize dair degiskenler girecegiz ve bu sebeple de target grouplar kuracagiz

- Daha oncesinde bir target group olusturdugumuz icin ALB-TG grubunu seciyoruz. Ama elimizde bir group olmasaydi new

target group secenegi ile yeni bir group olusturabilecektik.

- Trafigi takip edebilecegimiz 3 secenek sunulmustur biz instancerler uzerinden takip yapacagimiz icin target type e instance yi seciyoruz.
- Protocol kismi trafigi load balancer yonlendirirken kullandigi protokolu gostermektedir.
- Health check : Load balancerlarin instancerlerin duzgun calisip calismadigini kontrol eden bir fonksiyon. Load balancer target in duzgun calisip calismadigini kontrol eder. Http uzerinden health check yapacagiz. Path kismida health checkin yapilacagi target path dir ve default olarak root gornmektedir.

1. Configure Load Balancer 2. Configure Security Settings 3. Configure Security Groups 4. Configure Routing 5. Register Targets 6. Review

Step 4: Configure Routing

Your load balancer routes requests to the targets in this target group using the protocol and port that you specify here. It also performs health checks on the targets in this step will apply to all of the listeners configured on this load balancer. You can edit or add listeners after the load balancer is created.

Target group

Target group

Name

Target type
☒ Instance
☐ IP
☐ Lambda function

Protocol

Port

Protocol version ☒ HTTP1
Send requests to targets using HTTPV1.1. Supported when the request protocol is HTTPV1.1 or HTTP2.
☐ HTTP2
Send requests to targets using HTTP2. Supported when the request protocol is HTTP2 or gRPC, but gRPC-specific features are not available.
☐ gRPC
Send requests to targets using gRPC. Supported when the request protocol is gRPC.

Health checks

Protocol

Path

Advanced health check settings

- Healthy threshold ile arka planda target a gonderilecek request sayisidir defaut deger 5 tir. 5 sorgunun hepsi olumlu ise healthy karari verilecektir.
- Bir alt secenekte ise ard arda 2 defa request basarisiz olursa target unhealthy olarak belirlenecektir.
- Timeout : connestion failure durumunda bekleneccek sure
- Interval : her deneme arasindaki bekleme suresi
- Success codes : response olarak olumlu sonuc alinirsa 200 kodu denmektedir.

Health checks

Protocol

Path

Advanced health check settings

Port ☒ traffic port
☐ override

Healthy threshold

Unhealthy threshold

Timeout seconds

Interval seconds

Success codes

- Next

Cancel Previous Next: Register Targets

Hedef grubumuzdaki targetlari sececegiz

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1. Configure Load Balancer 2. Configure Security Settings 3. Configure Security Groups 4. Configure Routing 5. Register Targets 6. Review

Step 5: Register Targets

Register targets with your target group. If you register a target in an enabled Availability Zone, the load balancer starts routing requests to the targets as soon as passes the initial health checks.

Registered targets

The following targets are registered with the target group that you selected. You can only modify this list after you create the load balancer.

Instance	Port
i-0006e01d5ce22513e	80
i-0d0778e39200b11d	80
i-095a22940a9d44eb2	80

- Next

Cancel Previous Next: Review

- Create : review sayfamiz

1. Configure Load Balancer 2. Configure Security Settings 3. Configure Security Groups 4. Configure Routing 5. Register Targets 6. Review

Step 6: Review

Please review the load balancer details before continuing

▼ Load balancer

Name: MyFirst-ALB
Scheme: internet-facing
Listeners: Port 80 - Protocol HTTP
IP address type: ipv4
VPC: vpc-282cb155
Subnets: subnet-9f653900, subnet-46521220, subnet-06eda227, subnet-222d3d6f, subnet-b68fdca, subnet-e4251f6a
Tags:

Edit

▼ Security groups

Security groups: sg-f114b1e8, sg-05c7odd7898c21ad0

Edit

▼ Routing

Target group: Existing target group
Target group name: ALB-TG
Port: 80
Target type: instance
Protocol: HTTP
Protocol version: HTTP1
Health check protocol: HTTP
Path: /
Health check port: traffic port
Healthy threshold: 5
Unhealthy threshold: 2
Timeout: 5
Interval: 30
Success codes: 200

Edit

▼ Targets

Instances

Edit

▼ Add-on services

AWS Global Accelerator: Disabled

Edit

Cancel Previous Create

- Olusturuluyor asamasinda
- Road balancer tum targetlar icin bize bir dns name atamaktadir.

Create Load Balancer Actions

Filter by tags and attributes or search by keyword

Name	DNS name	State	VPC ID	Availability Zones	Type
MyFirst-ALB	MyFirst-ALB-53879681.us-east-1.elb.amazonaws.com	Provisioning	vpc-282cb155	us-east-1c, us-east-1d, ...	application

- Target groups sayfasinda 'initial' yazmakta

ALB-TG

amazon:elasticloadbalancing:us-east-1:000667629202:targetgroup/ALB-TG/1ef16b3f706dbf7e

Details Targets Monitoring Health checks Attributes Tags

Registered targets (3)

Filter resources by property or value

Instance ID	Name	Port	Zone	Health status	Health status details
i-0088e01d5cc22513e	ALB_Target_instance	80	us-east-1c	initial	Target registration is in progress
i-0d0776c392000b11d	ALB_Target_instance	80	us-east-1c	initial	Target registration is in progress
i-093a22040a6df4eb2	ALB_Target_instance	80	us-east-1c	initial	Target registration is in progress

- Ayni sayfada healthy gorecegiz

ALB-TG

amazon:elasticloadbalancing:us-east-1:000667629202:targetgroup/ALB-TG/1ef16b3f706dbf7e

Details Targets Monitoring Health checks Attributes Tags

Registered targets (3)

Filter resources by property or value

Instance ID	Name	Port	Zone	Health status	Health status details
i-0088e01d5cc22513e	ALB_Target_instance	80	us-east-1c	healthy	
i-0d0776c392000b11d	ALB_Target_instance	80	us-east-1c	healthy	
i-093a22040a6df4eb2	ALB_Target_instance	80	us-east-1c	healthy	

- Uc instance nin DNS i ni kopyalayip browser a yapistiralim

This web server is launched from launch template by Abdulhamid GOKCE

This instance is created at Wed Jul 7 18:39:26 UTC 2021

Private IP address of this instance is 172.31.82.146

Public IP address of this instance is 34.207.95.151

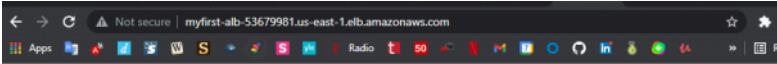
This web server is launched from launch template by Abdulhamid GOKCE

This instance is created at Wed Jul 7 18:39:28 UTC 2021
Private IP address of this instance is 172.31.95.15
Public IP address of this instance is 34.207.126.40

This web server is launched from launch template by Abdulhamid GOKCE

This instance is created at Wed Jul 7 18:39:29 UTC 2021
Private IP address of this instance is 172.31.88.125
Public IP address of this instance is 52.91.206.43

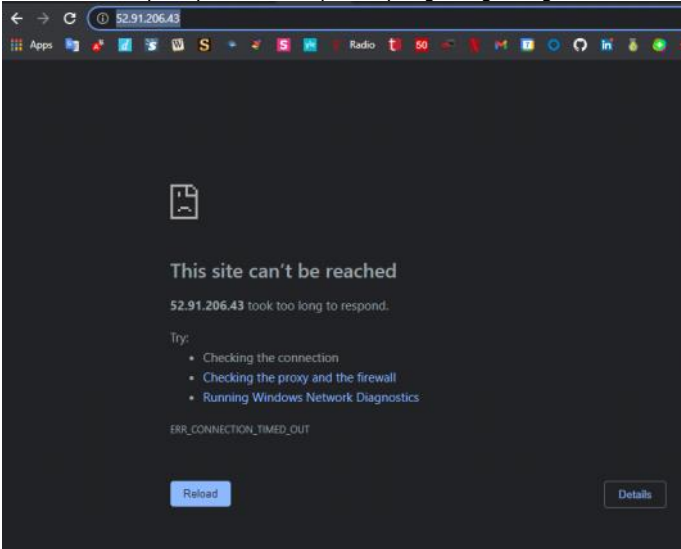
- DNS i actigimizda yukaridaki gibi uc ayri sayfa acmaya gerek kalmayacaktır ve sayfayi her yeniledigimizde diger sayfalara gececektir



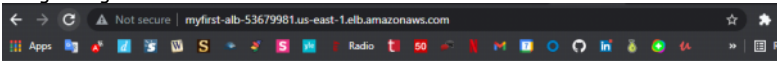
This web server is launched from launch template by Abdulhamid GOKCE

This instance is created at Wed Jul 7 18:39:29 UTC 2021
Private IP address of this instance is 172.31.88.125
Public IP address of this instance is 52.91.206.43

- Bir instanceyi stop edelim, cevap alamayacagimizi gorecegiz

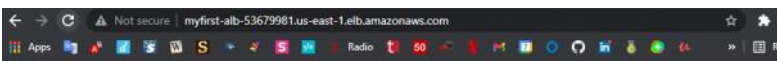


- Asagidaki iki sayfada iki instance arasina yuku gonderdigini gorecegiz



This web server is launched from launch template by Abdulhamid GOKCE

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Public IP address of this instance is 34.207.126.40

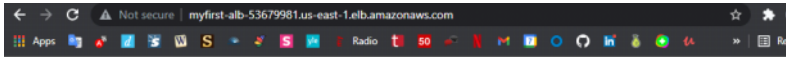


This web server is launched from launch template by Abdulhamid GOKCE

This instance is created at Wed Jul 7 18:39:26 UTC 2021
Private IP address of this instance is 172.31.82.146
Public IP address of this instance is 34.207.95.151

- Kapattigimiz instance yi tekrar acarsak DNS in calistigini

gorecegiz



This web server is launched from launch template by Abdulhamid GOKCE

This instance is created at Wed Jul 7 18:39:29 UTC 2021

Private IP address of this instance is 172.31.88.125

Public IP address of this instance is 52.91.206.43

- Instance ye baglanalim ve index.html dosyasini gorelim

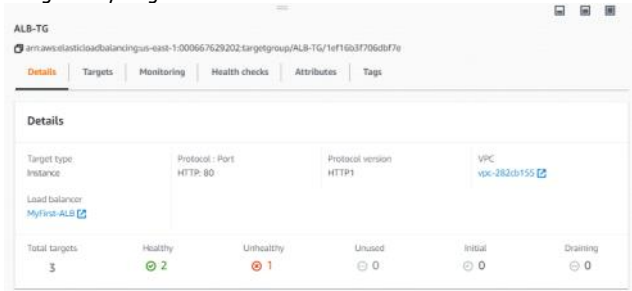
```
https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-88-125 ~]$ cd /var/www/html
[ec2-user@ip-172-31-88-125 html]$ pwd
/var/www/html
[ec2-user@ip-172-31-88-125 html]$ ls
index.html
[ec2-user@ip-172-31-88-125 html]$ cat index.html
<html>
<head>
  <title> Congratulations! You have created an instance from Launch Template</title>
</head>
<body>
  <h1>This web server is launched from launch template by Abdulhamid GOKCE</h1>
  <p>This instance is created at <b>Wed Jul 7 18:39:29 UTC 2021</b></p>
  <p>Private IP address of this instance is <b>172.31.88.125</b></p>
  <p>Public IP address of this instance is <b>52.91.206.43</b></p>
</body>
</html>
[ec2-user@ip-172-31-88-125 html]$
```

Cihazimizi durdurdugumuzda inaktif pozisyonda oldugunu gorecegiz

```
Jul 07 19:40:19 ip-172-31-88-125.ec2.internal systemd[1]: Stopped The Apache HTTP Server.
[ec2-user@ip-172-31-88-125 html]$ sudo systemctl stop httpd
[ec2-user@ip-172-31-88-125 html]$ sudo systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset: disabled)
   Active: inactive (dead) since Wed 2021-07-07 19:46:49 UTC; 1min 2s ago
     Docs: man:httpd.service(8)
   Process: 2798 ExecStart=/usr/sbin/httpd $OPTIONS -DFOREGROUND (code=exited, status=0/SUCCESS)
   Main PID: 2798 (code=exited, status=0/SUCCESS)
   Status: "Total requests: 17; Idle/Busy workers 100/0; Requests/sec: 0.0742; Bytes served/sec: 66 B/sec"

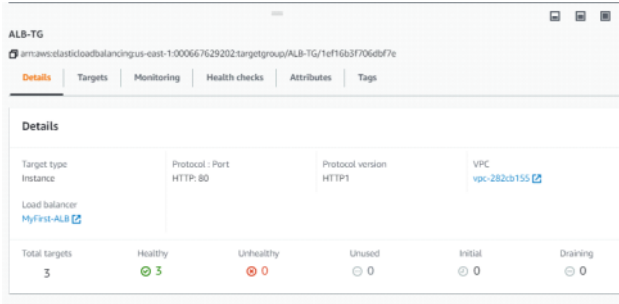
Jul 07 19:42:59 ip-172-31-88-125.ec2.internal systemd[1]: Starting The Apache HTTP Server...
Jul 07 19:42:59 ip-172-31-88-125.ec2.internal systemd[1]: Started The Apache HTTP Server.
Jul 07 19:46:48 ip-172-31-88-125.ec2.internal systemd[1]: Stopping The Apache HTTP Server...
Jul 07 19:46:49 ip-172-31-88-125.ec2.internal systemd[1]: Stopped The Apache HTTP Server.
[ec2-user@ip-172-31-88-125 html]$
```

- bu sayede browserlarda da vs coddan kapattigimiz makinayi goremeyecegiz.

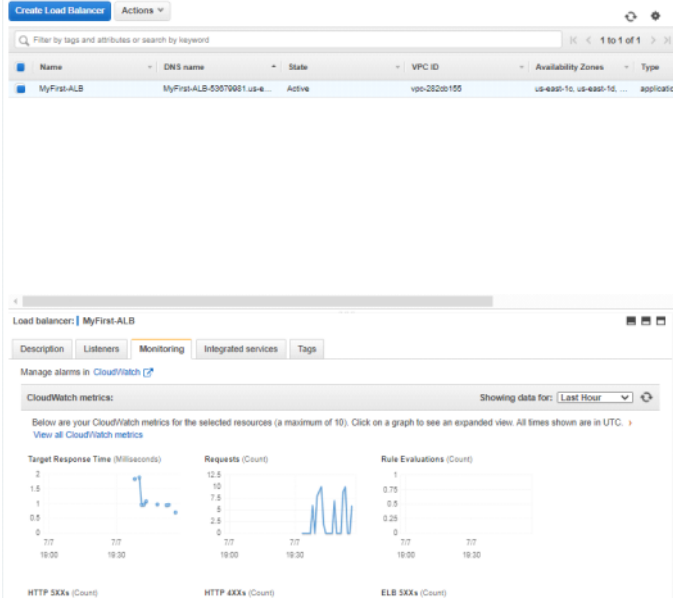


- Makinayi calistirdigimizda tekrar healthy konumuna geldigini gorecegiz

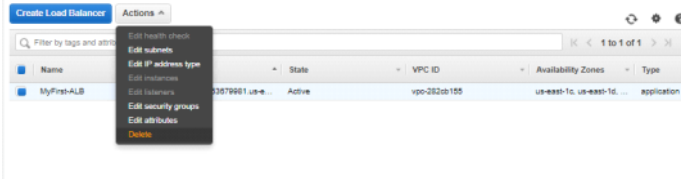
```
Jul 07 19:50:46 ip-172-31-88-125.ec2.internal systemd[1]: Starting The Apache HTTP Server...
Jul 07 19:50:46 ip-172-31-88-125.ec2.internal systemd[1]: Started The Apache HTTP Server.
[ec2-user@ip-172-31-88-125 html]$ sudo systemctl start httpd
[ec2-user@ip-172-31-88-125 html]$ sudo systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset: disabled)
   Active: active (running) since Wed 2021-07-07 19:50:46 UTC; 4s ago
     Docs: man:httpd.service(8)
   Main PID: 3263 (httpd)
   Status: "Processing requests..."
   CGroup: /system.slice/httpd.service
           └─3263 /usr/sbin/httpd -DFOREGROUND
             └─3264 /usr/sbin/httpd -DFOREGROUND
               └─3265 /usr/sbin/httpd -DFOREGROUND
                 └─3266 /usr/sbin/httpd -DFOREGROUND
                   └─3267 /usr/sbin/httpd -DFOREGROUND
                     └─3268 /usr/sbin/httpd -DFOREGROUND
```



- Monitoring bolumunden kapali olan cihazimizin genel durumu hakkında bilgi alabiliyoruz



- Actigimiz
 - o Sec group ==> free
 - o Launch template ==> free
 - o Target group ==> free
 - o Elastic load balancer ==> ucretli ve silinme sekli gorseldeki gibidir



- Instance leri de terminate edebilirsiniz

<https://docs.nginx.com/nginx/admin-guide/load-balancer/http-load-balancer/>

<https://medium.com/dazn-tech/aws-application-load-balancer-algorithms-765be2eca158>

<https://aws.amazon.com/elasticloadbalancing/features/>

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/instance-data-retrieval.html>



