aws

API Reference

Elastic Load Balancing

API Version 2015-12-01

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Elastic Load Balancing: API Reference

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Welcome

A load balancer distributes incoming traffic across targets, such as your EC2 instances. This enables you to increase the availability of your application. The load balancer also monitors the health of its registered targets and ensures that it routes traffic only to healthy targets. You configure your load balancer to accept incoming traffic by specifying one or more listeners, which are configured with a protocol and port number for connections from clients to the load balancer. You configure a target group with a protocol and port number for connections from the load balancer to the targets, and with health check settings to be used when checking the health status of the targets.

Elastic Load Balancing supports the following types of load balancers: Application Load Balancers, Network Load Balancers, Gateway Load Balancers, and Classic Load Balancers. This reference covers the following load balancer types:

- Application Load Balancer - Operates at the application layer (layer 7) and supports HTTP and HTTPS.
- Network Load Balancer - Operates at the transport layer (layer 4) and supports TCP, TLS, and UDP.
- Gateway Load Balancer - Operates at the network layer (layer 3).

For more information, see the Elastic Load Balancing User Guide.

To get started, complete the following tasks:

1. Create a load balancer using CreateLoadBalancer.
2. Create a target group using CreateTargetGroup.
3. Register targets for the target group using RegisterTargets.
4. Create one or more listeners for your load balancer using CreateListener.

To delete a load balancer and its related resources, complete the following tasks:

1. Delete the load balancer using DeleteLoadBalancer.
2. Delete the target group using DeleteTargetGroup.

All Elastic Load Balancing operations are idempotent, which means that they complete at most one time. If you repeat an operation, it succeeds.

This document was last published on April 18, 2024.

Actions

The following actions are supported:

- AddListenerCertificates
- AddTags
- AddTrustStoreRevocations
- CreateListener
- CreateLoadBalancer
- CreateRule
- CreateTargetGroup
- CreateTrustStore
- DeleteListener
- DeleteLoadBalancer
- DeleteRule
- DeleteTargetGroup
- DeleteTrustStore
- DeregisterTargets
- DescribeAccountLimits
- DescribeListenerCertificates
- DescribeListeners
- DescribeLoadBalancerAttributes
- DescribeLoadBalancers
- DescribeRules
- DescribeSSLPolicies
- DescribeTags
- DescribeTargetGroupAttributes
- DescribeTargetGroups
- DescribeTargetHealth
- DescribeTrustStoreAssociations
- DescribeTrustStoreRevocations

- DescribeTrustStores
- GetTrustStoreCaCertificatesBundle
- GetTrustStoreRevocationContent
- ModifyListener
- ModifyLoadBalancerAttributes
- ModifyRule
- ModifyTargetGroup
- ModifyTargetGroupAttributes
- ModifyTrustStore
- RegisterTargets
- RemoveListenerCertificates
- RemoveTags
- RemoveTrustStoreRevocations
- SetIpAddressType
- SetRulePriorities
- SetSecurityGroups
- SetSubnets

AddListenerCertificates

Adds the specified SSL server certificate to the certificate list for the specified HTTPS or TLS listener.

If the certificate in already in the certificate list, the call is successful but the certificate is not added again.

To get the certificate list for a listener, use DescribeListenerCertificates. To remove certificates from the certificate list for a listener, use RemoveListenerCertificates. To replace the default certificate for a listener, use ModifyListener.

For more information, see HTTPS listeners in the *Application Load Balancers Guide* or TLS listeners in the *Network Load Balancers Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

Certificates.member.N

The certificate to add. You can specify one certificate per call. Set `CertificateArn` to the certificate ARN but do not set `IsDefault`.

Type: Array of Certificate objects

Required: Yes

ListenerArn

The Amazon Resource Name (ARN) of the listener.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

Certificates.member.N

Information about the certificates in the certificate list.

Type: Array of Certificate objects

Errors

For information about the errors that are common to all actions, see Common Errors.

CertificateNotFound

The specified certificate does not exist.

HTTP Status Code: 400

ListenerNotFound

The specified listener does not exist.

HTTP Status Code: 400

TooManyCertificates

You've reached the limit on the number of certificates per load balancer.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

AddTags

Adds the specified tags to the specified Elastic Load Balancing resource. You can tag your Application Load Balancers, Network Load Balancers, Gateway Load Balancers, target groups, trust stores, listeners, and rules.

Each tag consists of a key and an optional value. If a resource already has a tag with the same key, AddTags updates its value.

To list the current tags for your resources, use DescribeTags. To remove tags from your resources, use RemoveTags.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

ResourceArns.member.N

The Amazon Resource Name (ARN) of the resource.

Type: Array of strings

Required: Yes

Tags.member.N

The tags.

Type: Array of Tag objects

Array Members: Minimum number of 1 item.

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors.

DuplicateTagKeys

A tag key was specified more than once.

HTTP Status Code: 400

ListenerNotFound

The specified listener does not exist.

HTTP Status Code: 400

LoadBalancerNotFound

The specified load balancer does not exist.

HTTP Status Code: 400

RuleNotFound

The specified rule does not exist.

HTTP Status Code: 400

TargetGroupNotFound

The specified target group does not exist.

HTTP Status Code: 400

TooManyTags

You've reached the limit on the number of tags for this resource.

HTTP Status Code: 400

TrustStoreNotFound

The specified trust store does not exist.

HTTP Status Code: 400

Examples

Add tags to a load balancer

This example adds the specified tags to the specified load balancer.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=AddTags
```

```
&ResourceArns.member.1=arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188
&Tags.member.1.Key=project
&Tags.member.1.Value=lima
&Tags.member.2.Key=department
&Tags.member.2.Value=digital-media
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

AddTrustStoreRevocations

Adds the specified revocation file to the specified trust store.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

RevocationContents.member.N

The revocation file to add.

Type: Array of RevocationContent objects

Required: No

TrustStoreArn

The Amazon Resource Name (ARN) of the trust store.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

TrustStoreRevocations.member.N

Information about the revocation file added to the trust store.

Type: Array of TrustStoreRevocation objects

Errors

For information about the errors that are common to all actions, see Common Errors.

InvalidRevocationContent

The provided revocation file is an invalid format, or uses an incorrect algorithm.

HTTP Status Code: 400

RevocationContentNotFound

The specified revocation file does not exist.

HTTP Status Code: 400

TooManyTrustStoreRevocationEntries

The specified trust store has too many revocation entries.

HTTP Status Code: 400

TrustStoreNotFound

The specified trust store does not exist.

HTTP Status Code: 400

Examples

Add a revocation file to a trust store.

This example adds the specified certificate revocation list to the specified trust store.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=AddTrustStoreRevocations
&TrustStoreArn=arn:aws:elasticloadbalancing:us-east-1:111122223333:truststore/my-trust-
store/3ym756xh7yj
&RevocationContents.member.1.RevocationType=CRL
&RevocationContents.member.1.S3Bucket=my-s3-bucket
&RevocationContents.member.1.S3Key=my-crl.pem
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface

- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

CreateListener

Creates a listener for the specified Application Load Balancer, Network Load Balancer, or Gateway Load Balancer.

To update a listener, use ModifyListener. When you are finished with a listener, you can delete it using DeleteListener. If you are finished with both the listener and the load balancer, you can delete them both using DeleteLoadBalancer.

For more information, see the following:

- Listeners for your Application Load Balancers
- Listeners for your Network Load Balancers
- Listeners for your Gateway Load Balancers

This operation is idempotent, which means that it completes at most one time. If you attempt to create multiple listeners with the same settings, each call succeeds.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

AlpnPolicy.member.N

[TLS listeners] The name of the Application-Layer Protocol Negotiation (ALPN) policy. You can specify one policy name. The following are the possible values:

- `HTTP1Only`
- `HTTP2Only`
- `HTTP2Optional`
- `HTTP2Preferred`
- None

For more information, see ALPN policies in the *Network Load Balancers Guide*.

Type: Array of strings

Required: No

Certificates.member.N

[HTTPS and TLS listeners] The default certificate for the listener. You must provide exactly one certificate. Set `CertificateArn` to the certificate ARN but do not set `IsDefault`.

To create a certificate list for the listener, use AddListenerCertificates.

Type: Array of Certificate objects

Required: No

DefaultActions.member.N

The actions for the default rule.

Type: Array of Action objects

Required: Yes

LoadBalancerArn

The Amazon Resource Name (ARN) of the load balancer.

Type: String

Required: Yes

MutualAuthentication

The mutual authentication configuration information.

Type: MutualAuthenticationAttributes object

Required: No

Port

The port on which the load balancer is listening. You cannot specify a port for a Gateway Load Balancer.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 65535.

Required: No

Protocol

The protocol for connections from clients to the load balancer. For Application Load Balancers, the supported protocols are HTTP and HTTPS. For Network Load Balancers, the supported protocols are TCP, TLS, UDP, and TCP_UDP. You can't specify the UDP or TCP_UDP protocol if dual-stack mode is enabled. You cannot specify a protocol for a Gateway Load Balancer.

Type: String

Valid Values: `HTTP | HTTPS | TCP | TLS | UDP | TCP_UDP | GENEVE`

Required: No

SslPolicy

[HTTPS and TLS listeners] The security policy that defines which protocols and ciphers are supported.

For more information, see Security policies in the *Application Load Balancers Guide* and Security policies in the *Network Load Balancers Guide*.

Type: String

Required: No

Tags.member.N

The tags to assign to the listener.

Type: Array of Tag objects

Array Members: Minimum number of 1 item.

Required: No

Response Elements

The following element is returned by the service.

Listeners.member.N

Information about the listener.

Type: Array of Listener objects

Errors

For information about the errors that are common to all actions, see Common Errors.

ALPNPolicyNotFound

The specified ALPN policy is not supported.

HTTP Status Code: 400

CertificateNotFound

The specified certificate does not exist.

HTTP Status Code: 400

DuplicateListener

A listener with the specified port already exists.

HTTP Status Code: 400

IncompatibleProtocols

The specified configuration is not valid with this protocol.

HTTP Status Code: 400

InvalidConfigurationRequest

The requested configuration is not valid.

HTTP Status Code: 400

InvalidLoadBalancerAction

The requested action is not valid.

HTTP Status Code: 400

LoadBalancerNotFound

The specified load balancer does not exist.

HTTP Status Code: 400

SSLPolicyNotFound

The specified SSL policy does not exist.

HTTP Status Code: 400

TargetGroupAssociationLimit

You've reached the limit on the number of load balancers per target group.

HTTP Status Code: 400

TargetGroupNotFound

The specified target group does not exist.

HTTP Status Code: 400

TooManyActions

You've reached the limit on the number of actions per rule.

HTTP Status Code: 400

TooManyCertificates

You've reached the limit on the number of certificates per load balancer.

HTTP Status Code: 400

TooManyListeners

You've reached the limit on the number of listeners per load balancer.

HTTP Status Code: 400

TooManyRegistrationsForTargetId

You've reached the limit on the number of times a target can be registered with a load balancer.

HTTP Status Code: 400

TooManyTags

You've reached the limit on the number of tags for this resource.

HTTP Status Code: 400

TooManyTargets

You've reached the limit on the number of targets.

HTTP Status Code: 400

TooManyUniqueTargetGroupsPerLoadBalancer

You've reached the limit on the number of unique target groups per load balancer across all listeners. If a target group is used by multiple actions for a load balancer, it is counted as only one use.

HTTP Status Code: 400

TrustStoreNotFound

The specified trust store does not exist.

HTTP Status Code: 400

TrustStoreNotReady

The specified trust store is not active.

HTTP Status Code: 400

UnsupportedProtocol

The specified protocol is not supported.

HTTP Status Code: 400

Examples

Create an HTTP listener

This example creates an HTTP listener for the specified Application Load Balancer that forwards requests to the specified target group.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateListener
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/
my-load-balancer/50dc6c495c0c9188
```

```
&Protocol=HTTP
&Port=80
&DefaultActions.member.1.Type=forward
&DefaultActions.member.1.TargetGroupArn=arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<CreateListenerResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <CreateListenerResult>
    <Listeners>
      <member>
        <LoadBalancerArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188</
LoadBalancerArn>
        <Protocol>HTTP</Protocol>
        <Port>80</Port>
        <ListenerArn>arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/
my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2</ListenerArn>
        <DefaultActions>
          <member>
            <Type>forward</Type>
            <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067</TargetGroupArn>
          </member>
        </DefaultActions>
      </member>
    </Listeners>
  </CreateListenerResult>
  <ResponseMetadata>
    <RequestId>883c84bb-f387-11e5-ae48-cff02092876b</RequestId>
  </ResponseMetadata>
</CreateListenerResponse>
```

Create an HTTPS listener

This example creates an HTTPS listener for the specified Application Load Balancer that forwards requests to the specified target group. Note that you must specify a default certificate for an HTTPS listener. You can create and manage your certificates using AWS Certificate Manager (ACM).

Alternatively, you can create a certificate using SSL/TLS tools, get the certificate signed by a certificate authority (CA), and upload the certificate to AWS Identity and Access Management (IAM).

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateListener
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/
my-load-balancer/50dc6c495c0c9188
&Protocol=HTTPS
&Port=443
&Certificates.member.1.CertificateArn=arn:aws:iam::123456789012:server-certificate/my-
server-cert
&SslPolicy=ELBSecurityPolicy-2016-08
&DefaultActions.member.1.Type=forward
&DefaultActions.member.1.TargetGroupArn=arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<CreateListenerResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <CreateListenerResult>
    <Listeners>
      <member>
        <LoadBalancerArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188</
LoadBalancerArn>
        <Protocol>HTTPS</Protocol>
        <Certificates>
          <member>
            <CertificateArn>arn:aws:iam::123456789012:server-certificate/my-server-
cert</CertificateArn>
          </member>
        </Certificates>
        <Port>443</Port>
        <SslPolicy>ELBSecurityPolicy-2016-08</SslPolicy>
        <ListenerArn>arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/
my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2</ListenerArn>
        <DefaultActions>
          <member>
            <Type>forward</Type>
```

```
            <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067</TargetGroupArn>
          </member>
        </DefaultActions>
      </member>
    </Listeners>
  </CreateListenerResult>
  <ResponseMetadata>
    <RequestId>97f1bb38-f390-11e5-b95d-3b2c1831fc26</RequestId>
  </ResponseMetadata>
</CreateListenerResponse>
```

Create a TCP listener

This example creates a TCP listener for the specified Network Load Balancer that forwards requests to the specified target group.

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateListener
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/net/
my-network-load-balancer/2d7b630a7815dda2
&Protocol=TCP
&Port=80
&DefaultActions.member.1.Type=forward
&DefaultActions.member.1.TargetGroupArn=arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-tcp-targets/b7fce90c666d892a
&Version=2015-12-01
&AUTHPARAMS
```

Create a TLS listener

This example creates a TLS listener for the specified Network Load Balancer that forwards requests to the specified target group.

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateListener
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/net/
my-network-load-balancer/2d7b630a7815dda2
&Protocol=TLS
&Port=443
&Certificates.member.1.CertificateArn=arn:aws:acm::123456789012:server-certificate/my-
server-cert
&SslPolicy=ELBSecurityPolicy-2016-08
&DefaultActions.member.1.Type=forward
```

```
&DefaultActions.member.1.TargetGroupArn=arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-tls-targets/b7fce90c666d892a
&Version=2015-12-01
&AUTHPARAMS
```

Create a UDP listener

This example creates a UDP listener for the specified Network Load Balancer that forwards requests to the specified target group.

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateListener
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/net/
my-network-load-balancer/2d7b630a7815dda2
&Protocol=UDP
&Port=53
&DefaultActions.member.1.Type=forward
&DefaultActions.member.1.TargetGroupArn=arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-udp-targets/b7fce90c666d892a
&Version=2015-12-01
&AUTHPARAMS
```

Create a TCP_UDP listener

This example creates a TCP_UDP listener for the specified Network Load Balancer that forwards requests to the specified target group. The target group must use the TCP_UDP protocol.

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateListener
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/net/
my-network-load-balancer/2d7b630a7815dda2
&Protocol=TCP_UDP
&Port=80
&DefaultActions.member.1.Type=forward
&DefaultActions.member.1.TargetGroupArn=arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-tcp-udp-targets/b7fce90c666d892a
&Version=2015-12-01
&AUTHPARAMS
```

Create a listener for your Gateway Load Balancer

This example creates a listener for the specified Gateway Load Balancer that forwards requests to the specified target group. You cannot specify a port or protocol.

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateListener
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/gwy/
my-gateway-load-balancer/2d7b630a7815dda2
&DefaultActions.member.1.Type=forward
&DefaultActions.member.1.TargetGroupArn=arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-appliance-targets/b7fce90c666d892a
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

CreateLoadBalancer

Creates an Application Load Balancer, Network Load Balancer, or Gateway Load Balancer.

To create listeners for your load balancer, use CreateListener. To describe your current load balancers, see DescribeLoadBalancers. When you are finished with a load balancer, you can delete it using DeleteLoadBalancer.

For more information, see the following:

- Application Load Balancers
- Network Load Balancers
- Gateway Load Balancers

This operation is idempotent, which means that it completes at most one time. If you attempt to create multiple load balancers with the same settings, each call succeeds.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

CustomerOwnedIpv4Pool

[Application Load Balancers on Outposts] The ID of the customer-owned address pool (CoIP pool).

Type: String

Length Constraints: Maximum length of 256.

Pattern: `^(ipv4pool-coip-)[a-zA-Z0-9]+$`

Required: No

IpAddressType

The type of IP addresses used by the subnets for your load balancer. The possible values are `ipv4` (for IPv4 addresses) and `dualstack` (for IPv4 and IPv6 addresses).

Type: String

Valid Values: `ipv4 | dualstack`

Required: No

Name

The name of the load balancer.

This name must be unique per region per account, can have a maximum of 32 characters, must contain only alphanumeric characters or hyphens, must not begin or end with a hyphen, and must not begin with "internal-".

Type: String

Required: Yes

Scheme

The nodes of an Internet-facing load balancer have public IP addresses. The DNS name of an Internet-facing load balancer is publicly resolvable to the public IP addresses of the nodes. Therefore, Internet-facing load balancers can route requests from clients over the internet.

The nodes of an internal load balancer have only private IP addresses. The DNS name of an internal load balancer is publicly resolvable to the private IP addresses of the nodes. Therefore, internal load balancers can route requests only from clients with access to the VPC for the load balancer.

The default is an Internet-facing load balancer.

You cannot specify a scheme for a Gateway Load Balancer.

Type: String

Valid Values: `internet-facing | internal`

Required: No

SecurityGroups.member.N

[Application Load Balancers and Network Load Balancers] The IDs of the security groups for the load balancer.

Type: Array of strings

Required: No

SubnetMappings.member.N

The IDs of the subnets. You can specify only one subnet per Availability Zone. You must specify either subnets or subnet mappings, but not both.

[Application Load Balancers] You must specify subnets from at least two Availability Zones. You cannot specify Elastic IP addresses for your subnets.

[Application Load Balancers on Outposts] You must specify one Outpost subnet.

[Application Load Balancers on Local Zones] You can specify subnets from one or more Local Zones.

[Network Load Balancers] You can specify subnets from one or more Availability Zones. You can specify one Elastic IP address per subnet if you need static IP addresses for your internet-facing load balancer. For internal load balancers, you can specify one private IP address per subnet from the IPv4 range of the subnet. For internet-facing load balancer, you can specify one IPv6 address per subnet.

[Gateway Load Balancers] You can specify subnets from one or more Availability Zones. You cannot specify Elastic IP addresses for your subnets.

Type: Array of SubnetMapping objects

Required: No

Subnets.member.N

The IDs of the subnets. You can specify only one subnet per Availability Zone. You must specify either subnets or subnet mappings, but not both. To specify an Elastic IP address, specify subnet mappings instead of subnets.

[Application Load Balancers] You must specify subnets from at least two Availability Zones.

[Application Load Balancers on Outposts] You must specify one Outpost subnet.

[Application Load Balancers on Local Zones] You can specify subnets from one or more Local Zones.

[Network Load Balancers] You can specify subnets from one or more Availability Zones.

[Gateway Load Balancers] You can specify subnets from one or more Availability Zones.

Type: Array of strings

Required: No

Tags.member.N

The tags to assign to the load balancer.

Type: Array of Tag objects

Array Members: Minimum number of 1 item.

Required: No

Type

The type of load balancer. The default is `application`.

Type: String

Valid Values: `application | network | gateway`

Required: No

Response Elements

The following element is returned by the service.

LoadBalancers.member.N

Information about the load balancer.

Type: Array of LoadBalancer objects

Errors

For information about the errors that are common to all actions, see Common Errors.

AllocationIdNotFound

The specified allocation ID does not exist.

HTTP Status Code: 400

AvailabilityZoneNotSupported

The specified Availability Zone is not supported.

HTTP Status Code: 400

DuplicateLoadBalancerName

A load balancer with the specified name already exists.

HTTP Status Code: 400

DuplicateTagKeys

A tag key was specified more than once.

HTTP Status Code: 400

InvalidConfigurationRequest

The requested configuration is not valid.

HTTP Status Code: 400

InvalidScheme

The requested scheme is not valid.

HTTP Status Code: 400

InvalidSecurityGroup

The specified security group does not exist.

HTTP Status Code: 400

InvalidSubnet

The specified subnet is out of available addresses.

HTTP Status Code: 400

OperationNotPermitted

This operation is not allowed.

HTTP Status Code: 400

ResourceInUse

A specified resource is in use.

HTTP Status Code: 400

SubnetNotFound

The specified subnet does not exist.

HTTP Status Code: 400

TooManyLoadBalancers

You've reached the limit on the number of load balancers for your AWS account.

HTTP Status Code: 400

TooManyTags

You've reached the limit on the number of tags for this resource.

HTTP Status Code: 400

Examples

Create an Internet-facing load balancer

This example creates an Internet-facing load balancer and enables the Availability Zones for the specified subnets.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateLoadBalancer
&Name=my-load-balancer
&Subnets.member.1=subnet-8360a9e7
&Subnets.member.2=subnet-b7d581c0
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<CreateLoadBalancerResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <CreateLoadBalancerResult>
    <LoadBalancers>
      <member>
        <LoadBalancerArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-internal-load-balancer/50dc6c495c0c9188</
LoadBalancerArn>
```

```
        <Scheme>internet-facing</Scheme>
        <LoadBalancerName>my-load-balancer</LoadBalancerName>
        <VpcId>vpc-3ac0fb5f</VpcId>
        <CanonicalHostedZoneId>Z2P70J7EXAMPLE</CanonicalHostedZoneId>
        <CreatedTime>2016-03-25T21:29:48.850Z</CreatedTime>
        <AvailabilityZones>
          <member>
            <SubnetId>subnet-8360a9e7</SubnetId>
            <ZoneName>us-west-2a</ZoneName>
          </member>
          <member>
            <SubnetId>subnet-b7d581c0</SubnetId>
            <ZoneName>us-west-2b</ZoneName>
          </member>
        </AvailabilityZones>
        <SecurityGroups>
          <member>sg-5943793c</member>
        </SecurityGroups>
        <DNSName>my-load-balancer-424835706.us-west-2.elb.amazonaws.com</DNSName>
        <State>
          <Code>provisioning</Code>
        </State>
        <Type>application</Type>
      </member>
    </LoadBalancers>
  </CreateLoadBalancerResult>
  <ResponseMetadata>
    <RequestId>32d531b2-f2d0-11e5-9192-3fff33344cfa</RequestId>
  </ResponseMetadata>
</CreateLoadBalancerResponse>
```

Create an internal load balancer

This example creates an internal load balancer and enables the Availability Zones for the specified subnets.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateLoadBalancer
&Name=my-internal-load-balancer
&Scheme=internal
&Subnets.member.1=subnet-8360a9e7
&Subnets.member.2=subnet-b7d581c0
```

```
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<CreateLoadBalancerResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <CreateLoadBalancerResult>
    <LoadBalancers>
      <member>
        <LoadBalancerArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-internal-load-balancer/5b49b8d4303115c2</
LoadBalancerArn>
        <Scheme>internal</Scheme>
        <LoadBalancerName>my-internal-load-balancer</LoadBalancerName>
        <VpcId>vpc-3ac0fb5f</VpcId>
        <CanonicalHostedZoneId>Z2P70J7EXAMPLE</CanonicalHostedZoneId>
        <CreatedTime>2016-03-25T21:29:48.850Z</CreatedTime>
        <AvailabilityZones>
          <member>
            <SubnetId>subnet-8360a9e7</SubnetId>
            <ZoneName>us-west-2a</ZoneName>
          </member>
          <member>
            <SubnetId>subnet-b7d581c0</SubnetId>
            <ZoneName>us-west-2b</ZoneName>
          </member>
        </AvailabilityZones>
        <SecurityGroups>
          <member>sg-5943793c</member>
        </SecurityGroups>
        <DNSName>internal-my-internal-load-balancer-1529930873.us-
west-2.elb.amazonaws.com</DNSName>
        <State>
          <Code>provisioning</Code>
        </State>
        <Type>application</Type>
      </member>
    </LoadBalancers>
  </CreateLoadBalancerResult>
  <ResponseMetadata>
    <RequestId>b37b9c3e-f2d0-11e5-a53c-67205c0d10fd</RequestId>
  </ResponseMetadata>
```

```
</CreateLoadBalancerResponse>
```

Create a Network Load Balancer

This example creates a Network Load Balancer and associates an Elastic IP address with each of the specified subnets.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateLoadBalancer
&Name=my-network-load-balancer
&Type=network
&SubnetMappings.member.1.SubnetId=subnet-8360a9e7
&SubnetMappings.member.1.AllocationId=eipalloc-5723d13e
&SubnetMappings.member.2.SubnetId=subnet-b7d581c0
&SubnetMappings.member.2.AllocationId=eipalloc-fc5ca095
&Version=2015-12-01
&AUTHPARAMS
```

Create a Gateway Load Balancer

This example creates a Gateway Load Balancer.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateLoadBalancer
&Name=my-gateway-load-balancer
&Type=gateway
&Subnets.member.1.SubnetId=subnet-066877671789bd71b
&Subnets.member.2.SubnetId=subnet-09ed24a70bc19bbe4
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

CreateRule

Creates a rule for the specified listener. The listener must be associated with an Application Load Balancer.

Each rule consists of a priority, one or more actions, and one or more conditions. Rules are evaluated in priority order, from the lowest value to the highest value. When the conditions for a rule are met, its actions are performed. If the conditions for no rules are met, the actions for the default rule are performed. For more information, see Listener rules in the *Application Load Balancers Guide*.

To view your current rules, use DescribeRules. To update a rule, use ModifyRule. To set the priorities of your rules, use SetRulePriorities. To delete a rule, use DeleteRule.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

Actions.member.N

The actions.

Type: Array of Action objects

Required: Yes

Conditions.member.N

The conditions.

Type: Array of RuleCondition objects

Required: Yes

ListenerArn

The Amazon Resource Name (ARN) of the listener.

Type: String

Required: Yes

Priority

The rule priority. A listener can't have multiple rules with the same priority.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 50000.

Required: Yes

Tags.member.N

The tags to assign to the rule.

Type: Array of Tag objects

Array Members: Minimum number of 1 item.

Required: No

Response Elements

The following element is returned by the service.

Rules.member.N

Information about the rule.

Type: Array of Rule objects

Errors

For information about the errors that are common to all actions, see Common Errors.

IncompatibleProtocols

The specified configuration is not valid with this protocol.

HTTP Status Code: 400

InvalidConfigurationRequest

The requested configuration is not valid.

HTTP Status Code: 400

InvalidLoadBalancerAction

The requested action is not valid.

HTTP Status Code: 400

ListenerNotFound

The specified listener does not exist.

HTTP Status Code: 400

PriorityInUse

The specified priority is in use.

HTTP Status Code: 400

TargetGroupAssociationLimit

You've reached the limit on the number of load balancers per target group.

HTTP Status Code: 400

TargetGroupNotFound

The specified target group does not exist.

HTTP Status Code: 400

TooManyActions

You've reached the limit on the number of actions per rule.

HTTP Status Code: 400

TooManyRegistrationsForTargetId

You've reached the limit on the number of times a target can be registered with a load balancer.

HTTP Status Code: 400

TooManyRules

You've reached the limit on the number of rules per load balancer.

HTTP Status Code: 400

TooManyTags

You've reached the limit on the number of tags for this resource.

HTTP Status Code: 400

TooManyTargetGroups

You've reached the limit on the number of target groups for your AWS account.

HTTP Status Code: 400

TooManyTargets

You've reached the limit on the number of targets.

HTTP Status Code: 400

TooManyUniqueTargetGroupsPerLoadBalancer

You've reached the limit on the number of unique target groups per load balancer across all listeners. If a target group is used by multiple actions for a load balancer, it is counted as only one use.

HTTP Status Code: 400

UnsupportedProtocol

The specified protocol is not supported.

HTTP Status Code: 400

Examples

Create a rule that forwards to a target group if a condition is met

This example creates a rule that forwards requests to the specified target group if the URL contains the specified pattern (for example, /img/*).

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateRule
&ListenerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-
balancer/50dc6c495c0c9188/f2f7dc8efc522ab2
&Priority=10
&Conditions.member.1.Field=path-pattern
&Conditions.member.1.Values.member.1=/img/*
```

```
&Actions.member.1.Type=forward
&Actions.member.1.TargetGroupArn=arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<CreateRuleResponse xmlns="http://elasticloadbalancing.amazonaws.com/doc/2015-12-01/">
  <CreateRuleResult>
    <Rules>
      <member>
        <IsDefault>false</IsDefault>
        <Conditions>
          <member>
            <Field>path-pattern</Field>
            <Values>
              <member>/img/*</member>
            </Values>
          </member>
        </Conditions>
        <Priority>10</Priority>
        <Actions>
          <member>
            <Type>forward</Type>
            <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067</TargetGroupArn>
          </member>
        </Actions>
        <RuleArn>arn:aws:elasticloadbalancing:us-west-2:123456789012:listener-rule/app/
my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2/9683b2d02a6cabee</RuleArn>
      </member>
    </Rules>
  </CreateRuleResult>
  <ResponseMetadata>
    <RequestId>c5478c83-f397-11e5-bb98-57195a6eb84a</RequestId>
  </ResponseMetadata>
</CreateRuleResponse>
```

Create a rule with a forward rule and an authenticate-oidc rule

This example creates a rule that first authenticates the user and then forwards the request if the user is authenticated.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateRule
&ListenerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-
balancer/50dc6c495c0c9188/f2f7dc8efc522ab2
&Priority=10
&Actions.member.1.Type=authenticate-oidc
&Actions.member.1.AuthenticateOidcConfig.Issuer="https://idp-issuer.com"
&Actions.member.1.AuthenticateOidcConfig.AuthorizationEndpoint="https://authorization-
endpoint.com"
&Actions.member.1.AuthenticateOidcConfig.TokenEndpoint="https://token-endpoint.com"
&Actions.member.1.AuthenticateOidcConfig.UserInfoEndpoint="https://user-info-
endpoint.com"
&Actions.member.1.AuthenticateOidcConfig.ClientId="abcdefghijklmnopqrstuvwxyz123456789"
&Actions.member.1.AuthenticateOidcConfig.ClientSecret="12345678901234567890123456789O"
&Actions.member.1.AuthenticateOidcConfig.SessionTimeout=3600
&Actions.member.1.AuthenticateOidcConfig.Scope="email"
&Actions.member.1.AuthenticateOidcConfig.OnUnauthenticatedRequest="authenticate"
&Actions.member.1.Order=1
&Actions.member.2.Type=forward
&Actions.member.2.TargetGroupArn=arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067
&Actions.member.2.Order=2
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python

- AWS SDK for Ruby V3

CreateTargetGroup

Creates a target group.

To register targets with the target group, use RegisterTargets. To update the health check settings for the target group, use ModifyTargetGroup. To monitor the health of targets in the target group, use DescribeTargetHealth.

To route traffic to the targets in a target group, specify the target group in an action using CreateListener or CreateRule.

To delete a target group, use DeleteTargetGroup.

For more information, see the following:

- Target groups for your Application Load Balancers
- Target groups for your Network Load Balancers
- Target groups for your Gateway Load Balancers

This operation is idempotent, which means that it completes at most one time. If you attempt to create multiple target groups with the same settings, each call succeeds.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

HealthCheckEnabled

Indicates whether health checks are enabled. If the target type is `lambda`, health checks are disabled by default but can be enabled. If the target type is `instance`, `ip`, or `alb`, health checks are always enabled and cannot be disabled.

Type: Boolean

Required: No

HealthCheckIntervalSeconds

The approximate amount of time, in seconds, between health checks of an individual target. The range is 5-300. If the target group protocol is TCP, TLS, UDP, TCP_UDP, HTTP or HTTPS, the

default is 30 seconds. If the target group protocol is GENEVE, the default is 10 seconds. If the target type is `lambda`, the default is 35 seconds.

Type: Integer

Valid Range: Minimum value of 5. Maximum value of 300.

Required: No

HealthCheckPath

[HTTP/HTTPS health checks] The destination for health checks on the targets.

[HTTP1 or HTTP2 protocol version] The ping path. The default is /.

[GRPC protocol version] The path of a custom health check method with the format /package.service/method. The default is /AWS.ALB/healthcheck.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

HealthCheckPort

The port the load balancer uses when performing health checks on targets. If the protocol is HTTP, HTTPS, TCP, TLS, UDP, or TCP_UDP, the default is `traffic-port`, which is the port on which each target receives traffic from the load balancer. If the protocol is GENEVE, the default is port 80.

Type: String

Required: No

HealthCheckProtocol

The protocol the load balancer uses when performing health checks on targets. For Application Load Balancers, the default is HTTP. For Network Load Balancers and Gateway Load Balancers, the default is TCP. The TCP protocol is not supported for health checks if the protocol of the target group is HTTP or HTTPS. The GENEVE, TLS, UDP, and TCP_UDP protocols are not supported for health checks.

Type: String

Valid Values: `HTTP | HTTPS | TCP | TLS | UDP | TCP_UDP | GENEVE`

Required: No

HealthCheckTimeoutSeconds

The amount of time, in seconds, during which no response from a target means a failed health check. The range is 2–120 seconds. For target groups with a protocol of HTTP, the default is 6 seconds. For target groups with a protocol of TCP, TLS or HTTPS, the default is 10 seconds. For target groups with a protocol of GENEVE, the default is 5 seconds. If the target type is `lambda`, the default is 30 seconds.

Type: Integer

Valid Range: Minimum value of 2. Maximum value of 120.

Required: No

HealthyThresholdCount

The number of consecutive health check successes required before considering a target healthy. The range is 2-10. If the target group protocol is TCP, TCP_UDP, UDP, TLS, HTTP or HTTPS, the default is 5. For target groups with a protocol of GENEVE, the default is 5. If the target type is `lambda`, the default is 5.

Type: Integer

Valid Range: Minimum value of 2. Maximum value of 10.

Required: No

IpAddressType

The type of IP address used for this target group. The possible values are `ipv4` and `ipv6`. This is an optional parameter. If not specified, the IP address type defaults to `ipv4`.

Type: String

Valid Values: `ipv4 | ipv6`

Required: No

Matcher

[HTTP/HTTPS health checks] The HTTP or gRPC codes to use when checking for a successful response from a target. For target groups with a protocol of TCP, TCP_UDP, UDP or TLS the

range is 200-599. For target groups with a protocol of HTTP or HTTPS, the range is 200-499. For target groups with a protocol of GENEVE, the range is 200-399.

Type: Matcher object

Required: No

Name

The name of the target group.

This name must be unique per region per account, can have a maximum of 32 characters, must contain only alphanumeric characters or hyphens, and must not begin or end with a hyphen.

Type: String

Required: Yes

Port

The port on which the targets receive traffic. This port is used unless you specify a port override when registering the target. If the target is a Lambda function, this parameter does not apply. If the protocol is GENEVE, the supported port is 6081.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 65535.

Required: No

Protocol

The protocol to use for routing traffic to the targets. For Application Load Balancers, the supported protocols are HTTP and HTTPS. For Network Load Balancers, the supported protocols are TCP, TLS, UDP, or TCP_UDP. For Gateway Load Balancers, the supported protocol is GENEVE. A TCP_UDP listener must be associated with a TCP_UDP target group. If the target is a Lambda function, this parameter does not apply.

Type: String

Valid Values: `HTTP | HTTPS | TCP | TLS | UDP | TCP_UDP | GENEVE`

Required: No

ProtocolVersion

[HTTP/HTTPS protocol] The protocol version. Specify `GRPC` to send requests to targets using gRPC. Specify `HTTP2` to send requests to targets using HTTP/2. The default is `HTTP1`, which sends requests to targets using HTTP/1.1.

Type: String

Required: No

Tags.member.N

The tags to assign to the target group.

Type: Array of Tag objects

Array Members: Minimum number of 1 item.

Required: No

TargetType

The type of target that you must specify when registering targets with this target group. You can't specify targets for a target group using more than one target type.

- `instance` - Register targets by instance ID. This is the default value.
- `ip` - Register targets by IP address. You can specify IP addresses from the subnets of the virtual private cloud (VPC) for the target group, the RFC 1918 range (10.0.0.0/8, 172.16.0.0/12, and 192.168.0.0/16), and the RFC 6598 range (100.64.0.0/10). You can't specify publicly routable IP addresses.
- `lambda` - Register a single Lambda function as a target.
- `alb` - Register a single Application Load Balancer as a target.

Type: String

Valid Values: `instance | ip | lambda | alb`

Required: No

UnhealthyThresholdCount

The number of consecutive health check failures required before considering a target unhealthy. The range is 2-10. If the target group protocol is TCP, TCP_UDP, UDP, TLS, HTTP or HTTPS, the

default is 2. For target groups with a protocol of GENEVE, the default is 2. If the target type is `lambda`, the default is 5.

Type: Integer

Valid Range: Minimum value of 2. Maximum value of 10.

Required: No

VpcId

The identifier of the virtual private cloud (VPC). If the target is a Lambda function, this parameter does not apply. Otherwise, this parameter is required.

Type: String

Required: No

Response Elements

The following element is returned by the service.

TargetGroups.member.N

Information about the target group.

Type: Array of TargetGroup objects

Errors

For information about the errors that are common to all actions, see Common Errors.

DuplicateTargetGroupName

A target group with the specified name already exists.

HTTP Status Code: 400

InvalidConfigurationRequest

The requested configuration is not valid.

HTTP Status Code: 400

TooManyTags

You've reached the limit on the number of tags for this resource.

HTTP Status Code: 400

TooManyTargetGroups

You've reached the limit on the number of target groups for your AWS account.

HTTP Status Code: 400

Examples

Create a target group to route traffic to instances registered by instance ID

This example creates a target group for an Application Load Balancer that you can use to route traffic to instances using HTTP on port 80. You register the instances by instance ID. This target group uses the default health check settings.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateTargetGroup
&Name=my-targets
&Protocol=HTTP
&Port=80
&VpcId=vpc-3ac0fb5f
&TargetType=instance
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<CreateTargetGroupResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <CreateTargetGroupResult>
    <TargetGroups>
      <member>
        <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067</TargetGroupArn>
        <HealthCheckTimeoutSeconds>5</HealthCheckTimeoutSeconds>
```

```
        <HealthCheckPort>traffic-port</HealthCheckPort>
        <Matcher>
          <HttpCode>200</HttpCode>
        </Matcher>
        <TargetGroupName>my-targets</TargetGroupName>
        <HealthCheckProtocol>HTTP</HealthCheckProtocol>
        <HealthCheckPath>/</HealthCheckPath>
        <Protocol>HTTP</Protocol>
        <Port>80</Port>
        <VpcId>vpc-3ac0fb5f</VpcId>
        <HealthyThresholdCount>5</HealthyThresholdCount>
        <HealthCheckIntervalSeconds>30</HealthCheckIntervalSeconds>
        <UnhealthyThresholdCount>2</UnhealthyThresholdCount>
      </member>
    </TargetGroups>
  </CreateTargetGroupResult>
  <ResponseMetadata>
    <RequestId>b83fe90e-f2d5-11e5-b95d-3b2c1831fc26</RequestId>
  </ResponseMetadata>
</CreateTargetGroupResponse>
```

Create a target group to route traffic to IP addresses

This example creates a target group for a Network Load Balancer that you can use to route traffic to IP addresses using TCP on port 80. This target group uses the default health check settings.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateTargetGroup
&Name=my-ip-targets
&Protocol=TCP
&Port=80
&VpcId=vpc-09e5e2c5ef7e38ae7
&TargetType=ip
&Version=2015-12-01
&AUTHPARAMS
```

Create a target group to route traffic to a Lambda function

This example creates a target group for an Application Load Balancer that you can use to route traffic to a Lambda function. This target group uses the default health check settings. For more information, see Lambda functions as targets in the *Application Load Balancers Guide*.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateTargetGroup
&Name=my-lambda-target
&TargetType=lambda
&Version=2015-12-01
&AUTHPARAMS
```

Create a target group for your Gateway Load Balancer

This example creates a target group for a Gateway Load Balancer. The protocol must be GENEVE and the port must be 6081.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateTargetGroup
&Name=my-appliance-targets
&Protocol=GENEVE
&Port=6081
&VpcId=vpc-09e5e2c5ef7e38ae7
&TargetType=ip
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

CreateTrustStore

Creates a trust store.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

CaCertificatesBundleS3Bucket

The Amazon S3 bucket for the ca certificates bundle.

Type: String

Required: Yes

CaCertificatesBundleS3Key

The Amazon S3 path for the ca certificates bundle.

Type: String

Required: Yes

CaCertificatesBundleS3ObjectVersion

The Amazon S3 object version for the ca certificates bundle. If undefined the current version is used.

Type: String

Required: No

Name

The name of the trust store.

This name must be unique per region and cannot be changed after creation.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 32.

Pattern: `^([a-zA-Z0-9]+-)*[a-zA-Z0-9]+$`

Required: Yes

Tags.member.N

The tags to assign to the trust store.

Type: Array of Tag objects

Array Members: Minimum number of 1 item.

Required: No

Response Elements

The following element is returned by the service.

TrustStores.member.N

Information about the trust store created.

Type: Array of TrustStore objects

Errors

For information about the errors that are common to all actions, see Common Errors.

CaCertificatesBundleNotFound

The specified ca certificate bundle does not exist.

HTTP Status Code: 400

DuplicateTagKeys

A tag key was specified more than once.

HTTP Status Code: 400

DuplicateTrustStoreName

A trust store with the specified name already exists.

HTTP Status Code: 400

InvalidCaCertificatesBundle

The specified ca certificate bundle is in an invalid format, or corrupt.

HTTP Status Code: 400

TooManyTags

You've reached the limit on the number of tags for this resource.

HTTP Status Code: 400

TooManyTrustStores

You've reached the limit on the number of trust stores for your AWS account.

HTTP Status Code: 400

Examples

Create a trust store.

This example creates a trust store using the current version of the specified ca certificate bundle.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=CreateTrustStore
&Name=my-trust-store
&CaCertificatesBundleS3Bucket=my-s3-bucket
&CaCertificatesBundleS3Key=CACertBundle.pem
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++

- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DeleteListener

Deletes the specified listener.

Alternatively, your listener is deleted when you delete the load balancer to which it is attached, using DeleteLoadBalancer.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

ListenerArn

The Amazon Resource Name (ARN) of the listener.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors.

ListenerNotFound

The specified listener does not exist.

HTTP Status Code: 400

ResourceInUse

A specified resource is in use.

HTTP Status Code: 400

Examples

Delete a listener

This example deletes the specified listener.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DeleteListener
&ListenerArn=arn:aws:elasticloadbalancing:ua-west-2:123456789012:listener/app/my-load-
balancer/50dc6c495c0c9188/f2f7dc8efc522ab2
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DeleteLoadBalancer

Deletes the specified Application Load Balancer, Network Load Balancer, or Gateway Load Balancer. Deleting a load balancer also deletes its listeners.

You can't delete a load balancer if deletion protection is enabled. If the load balancer does not exist or has already been deleted, the call succeeds.

Deleting a load balancer does not affect its registered targets. For example, your EC2 instances continue to run and are still registered to their target groups. If you no longer need these EC2 instances, you can stop or terminate them.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

LoadBalancerArn

The Amazon Resource Name (ARN) of the load balancer.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors.

LoadBalancerNotFound

The specified load balancer does not exist.

HTTP Status Code: 400

OperationNotPermitted

This operation is not allowed.

HTTP Status Code: 400

ResourceInUse

A specified resource is in use.

HTTP Status Code: 400

Examples

Delete a load balancer

This example deletes the specified load balancer.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DeleteLoadBalancer
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/
my-load-balancer/50dc6c495c0c9188
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DeleteRule

Deletes the specified rule.

You can't delete the default rule.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

RuleArn

The Amazon Resource Name (ARN) of the rule.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors.

OperationNotPermitted

This operation is not allowed.

HTTP Status Code: 400

RuleNotFound

The specified rule does not exist.

HTTP Status Code: 400

Examples

Delete a rule

This example deletes the specified rule.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DeleteRule
```

```
&RuleArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:listener-rule/app/my-load-
balancer/50dc6c495c0c9188/f2f7dc8efc522ab2/1291d13826f405c3
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DeleteTargetGroup

Deletes the specified target group.

You can delete a target group if it is not referenced by any actions. Deleting a target group also deletes any associated health checks. Deleting a target group does not affect its registered targets. For example, any EC2 instances continue to run until you stop or terminate them.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

TargetGroupArn

The Amazon Resource Name (ARN) of the target group.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors.

ResourceInUse

A specified resource is in use.

HTTP Status Code: 400

Examples

Delete a target group

This example deletes the specified target group.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DeleteTargetGroup
```

```
&TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-
targets/73e2d6bc24d8a067
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DeleteTrustStore

Deletes a trust store.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

TrustStoreArn

The Amazon Resource Name (ARN) of the trust store.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors.

TrustStoreInUse

The specified trust store is currently in use.

HTTP Status Code: 400

TrustStoreNotFound

The specified trust store does not exist.

HTTP Status Code: 400

Examples

Delete a trust store.

This example deletes the specified trust store.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DeleteTrustStore
```

```
&TrustStoreArn=arn:aws:elasticloadbalancing:us-east-1:111122223333:truststore/my-trust-
store/3ym756xh7yj
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DeregisterTargets

Deregisters the specified targets from the specified target group. After the targets are deregistered, they no longer receive traffic from the load balancer.

The load balancer stops sending requests to targets that are deregistering, but uses connection draining to ensure that in-flight traffic completes on the existing connections. This deregistration delay is configured by default but can be updated for each target group.

For more information, see the following:

- Deregistration delay in the *Application Load Balancers User Guide*
- Deregistration delay in the *Network Load Balancers User Guide*
- Deregistration delay in the *Gateway Load Balancers User Guide*

Note: If the specified target does not exist, the action returns successfully.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

TargetGroupArn

The Amazon Resource Name (ARN) of the target group.

Type: String

Required: Yes

Targets.member.N

The targets. If you specified a port override when you registered a target, you must specify both the target ID and the port when you deregister it.

Type: Array of TargetDescription objects

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors.

InvalidTarget

The specified target does not exist, is not in the same VPC as the target group, or has an unsupported instance type.

HTTP Status Code: 400

TargetGroupNotFound

The specified target group does not exist.

HTTP Status Code: 400

Examples

Deregister an instance from a target group

This example deregisters the specified instance from the specified target group.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DeregisterTargets
&TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-
targets/73e2d6bc24d8a067
&Targets.member.1.Id=i-0f76fade435676abd
&Version=2015-12-01
&AUTHPARAMS
```

Deregister an IP address from a target group

This example deregisters the specified IP address from the specified target group.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DeregisterTargets
&TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-
targets/73e2d6bc24d8a067
&Targets.member.1.Id=10.0.1.238
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DescribeAccountLimits

Describes the current Elastic Load Balancing resource limits for your AWS account.

For more information, see the following:

- Quotas for your Application Load Balancers
- Quotas for your Network Load Balancers
- Quotas for your Gateway Load Balancers

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

Marker

The marker for the next set of results. (You received this marker from a previous call.)

Type: String

Required: No

PageSize

The maximum number of results to return with this call.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 400.

Required: No

Response Elements

The following elements are returned by the service.

Limits.member.N

Information about the limits.

Type: Array of Limit objects

NextMarker

If there are additional results, this is the marker for the next set of results. Otherwise, this is null.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DescribeListenerCertificates

Describes the default certificate and the certificate list for the specified HTTPS or TLS listener.

If the default certificate is also in the certificate list, it appears twice in the results (once with `IsDefault` set to true and once with `IsDefault` set to false).

For more information, see SSL certificates in the *Application Load Balancers Guide* or Server certificates in the *Network Load Balancers Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

ListenerArn

The Amazon Resource Names (ARN) of the listener.

Type: String

Required: Yes

Marker

The marker for the next set of results. (You received this marker from a previous call.)

Type: String

Required: No

PageSize

The maximum number of results to return with this call.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 400.

Required: No

Response Elements

The following elements are returned by the service.

Certificates.member.N

Information about the certificates.

Type: Array of Certificate objects

NextMarker

If there are additional results, this is the marker for the next set of results. Otherwise, this is null.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors.

ListenerNotFound

The specified listener does not exist.

HTTP Status Code: 400

Examples

Describe the certificate list for a listener

This example describes the certificate list for the specified listener.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeListenerCertificates
&ListenerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-
balancer/50dc6c495c0c9188/f2f7dc8efc522ab2
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<DescribeListenerCertificatesResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
```

```
  <DescribeListenerCertificatesResult>
    <Certificates>
      <member>
        <CertificateArn>arn:aws:acm:us-
west-2:123456789012:certificate/1bf70a25-6914-495a-92f8-e27feEXAMPLE</CertificateArn>
        <IsDefault>true</IsDefault>
      </member>
      <member>
        <CertificateArn>arn:aws:acm:us-
west-2:123456789012:certificate/68c11a12-39de-44dd-b329-fe64aEXAMPLE</CertificateArn>
        <IsDefault>false</IsDefault>
      </member>
      <member>
        <CertificateArn>arn:aws:acm:us-
west-2:123456789012:certificate/1bf70a25-6914-495a-92f8-e27feEXAMPLE</CertificateArn>
        <IsDefault>false</IsDefault>
      </member>
    </Certificates>
  </DescribeListenerCertificatesResult>
  <ResponseMetadata>
    <RequestId>18e470d3-f39c-11e5-a53c-67205c0d10fd</RequestId>
  </ResponseMetadata>
</DescribeListenerCertificatesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DescribeListeners

Describes the specified listeners or the listeners for the specified Application Load Balancer, Network Load Balancer, or Gateway Load Balancer. You must specify either a load balancer or one or more listeners.

For an HTTPS or TLS listener, the output includes the default certificate for the listener. To describe the certificate list for the listener, use DescribeListenerCertificates.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

ListenerArns.member.N

The Amazon Resource Names (ARN) of the listeners.

Type: Array of strings

Required: No

LoadBalancerArn

The Amazon Resource Name (ARN) of the load balancer.

Type: String

Required: No

Marker

The marker for the next set of results. (You received this marker from a previous call.)

Type: String

Required: No

PageSize

The maximum number of results to return with this call.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 400.

Required: No

Response Elements

The following elements are returned by the service.

Listeners.member.N

Information about the listeners.

Type: Array of Listener objects

NextMarker

If there are additional results, this is the marker for the next set of results. Otherwise, this is null.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors.

ListenerNotFound

The specified listener does not exist.

HTTP Status Code: 400

LoadBalancerNotFound

The specified load balancer does not exist.

HTTP Status Code: 400

UnsupportedProtocol

The specified protocol is not supported.

HTTP Status Code: 400

Examples

Describe an HTTP listener

This example describes the specified HTTP listener.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeListeners
&ListenerArns.member.1=arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/
app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<DescribeListenersResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <DescribeListenersResult>
    <Listeners>
      <member>
        <LoadBalancerArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188</
LoadBalancerArn>
        <Protocol>HTTP</Protocol>
        <Port>80</Port>
        <ListenerArn>arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/
my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2</ListenerArn>
        <DefaultActions>
          <member>
            <Type>forward</Type>
            <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067</TargetGroupArn>
          </member>
        </DefaultActions>
      </member>
    </Listeners>
  </DescribeListenersResult>
  <ResponseMetadata>
    <RequestId>18e470d3-f39c-11e5-a53c-67205c0d10fd</RequestId>
  </ResponseMetadata>
</DescribeListenersResponse>
```

Describe an HTTPS listener

This example describes the specified HTTPS listener.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeListeners
&ListenerArns.member.1=arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/
app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<DescribeListenersResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <DescribeListenersResult>
    <Listeners>
      <member>
        <Port>443</Port>
        <Protocol>HTTPS</Protocol>
        <LoadBalancerArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188</
LoadBalancerArn>
        <ListenerArn>arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/
my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2</ListenerArn>
        <DefaultActions>
          <member>
            <Type>forward</Type>
            <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067</TargetGroupArn>
          </member>
        </DefaultActions>
        <SslPolicy>ELBSecurityPolicy-2016-08</SslPolicy>
        <Certificates>
          <member>
            <CertificateArn>arn:aws:acm:us-
west-2:123456789012:certificate/68c11a12-39de-44dd-b329-fe64aEXAMPLE</CertificateArn>
          </member>
        </Certificates>
      </member>
    </Listeners>
  </DescribeListenersResult>
```

```
  <ResponseMetadata>
    <RequestId>18e470d3-f39c-11e5-a53c-67205c0d10fd</RequestId>
  </ResponseMetadata>
</DescribeListenersResponse>
```

Describe the listeners for a load balancer

This example describe the listeners for the specified load balancer.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeListeners
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-
load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<DescribeLoadBalancersResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <DescribeListenersResult>
    <Listeners>
      <member>
        <LoadBalancerArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188</
LoadBalancerArn>
        <Protocol>HTTPS</Protocol>
        <Certificates>
          <member>
            <CertificateArn>arn:aws:iam::123456789012:server-certificate/my-server-
cert</CertificateArn>
          </member>
        </Certificates>
        <Port>443</Port>
        <SslPolicy>ELBSecurityPolicy-2016-08</SslPolicy>
        <ListenerArn>arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/
my-load-balancer/50dc6c495c0c9188/0467ef3c8400ae65</ListenerArn>
        <DefaultActions>
          <member>
            <Type>forward</Type>
            <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067</TargetGroupArn>
```

```
          </member>
        </DefaultActions>
      </member>
      <member>
        <LoadBalancerArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188</
LoadBalancerArn>
        <Protocol>HTTP</Protocol>
        <Port>80</Port>
        <ListenerArn>arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/
my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2</ListenerArn>
        <DefaultActions>
          <member>
            <Type>forward</Type>
            <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067</TargetGroupArn>
          </member>
        </DefaultActions>
      </member>
    </Listeners>
  </DescribeListenersResult>
  <ResponseMetadata>
    <RequestId>65a3a7ea-f39c-11e5-b543-9f2c3fbb9bee</RequestId>
  </ResponseMetadata>
</DescribeLoadBalancersResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python

- AWS SDK for Ruby V3

DescribeLoadBalancerAttributes

Describes the attributes for the specified Application Load Balancer, Network Load Balancer, or Gateway Load Balancer.

For more information, see the following:

- Load balancer attributes in the *Application Load Balancers Guide*
- Load balancer attributes in the *Network Load Balancers Guide*
- Load balancer attributes in the *Gateway Load Balancers Guide*

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

LoadBalancerArn

The Amazon Resource Name (ARN) of the load balancer.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

Attributes.member.N

Information about the load balancer attributes.

Type: Array of LoadBalancerAttribute objects

Array Members: Maximum number of 20 items.

Errors

For information about the errors that are common to all actions, see Common Errors.

LoadBalancerNotFound

The specified load balancer does not exist.

HTTP Status Code: 400

Examples

Describe load balancer attributes

This example describes the attributes of the specified load balancer.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeLoadBalancerAttributes
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/
my-load-balancer/50dc6c495c0c9188
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<DescribeLoadBalancerAttributesResponse xmlns="http://
elasticloadbalancing.amazonaws.com/doc/2015-12-01/">
  <DescribeLoadBalancerAttributesResult>
    <Attributes>
      <member>
        <Value>false</Value>
        <Key>access_logs.s3.enabled</Key>
      </member>
      <member>
        <Value>60</Value>
        <Key>idle_timeout.timeout_seconds</Key>
      </member>
      <member>
        <Value />
        <Key>access_logs.s3.prefix</Key>
      </member>
      <member>
        <Value>false</Value>
        <Key>deletion_protection.enabled</Key>
      </member>
```

```
      <member>
        <Value />
        <Key>access_logs.s3.bucket</Key>
      </member>
    </Attributes>
  </DescribeLoadBalancerAttributesResult>
  <ResponseMetadata>
    <RequestId>1528a9a4-f38e-11e5-8ead-f1e91be31786</RequestId>
  </ResponseMetadata>
</DescribeLoadBalancerAttributesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DescribeLoadBalancers

Describes the specified load balancers or all of your load balancers.

To describe the listeners for a load balancer, use DescribeListeners. To describe the attributes for a load balancer, use DescribeLoadBalancerAttributes.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

LoadBalancerArns.member.N

The Amazon Resource Names (ARN) of the load balancers. You can specify up to 20 load balancers in a single call.

Type: Array of strings

Required: No

Marker

The marker for the next set of results. (You received this marker from a previous call.)

Type: String

Required: No

Names.member.N

The names of the load balancers.

Type: Array of strings

Required: No

PageSize

The maximum number of results to return with this call.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 400.

Required: No

Response Elements

The following elements are returned by the service.

LoadBalancers.member.N

Information about the load balancers.

Type: Array of LoadBalancer objects

NextMarker

If there are additional results, this is the marker for the next set of results. Otherwise, this is null.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors.

LoadBalancerNotFound

The specified load balancer does not exist.

HTTP Status Code: 400

Examples

Describe a load balancer

This example describes the specified load balancer.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeLoadBalancers
&LoadBalancerArns.member.1=arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188
```

```
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<DescribeLoadBalancersResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <DescribeLoadBalancersResult>
    <LoadBalancers>
      <member>
        <LoadBalancerArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188</
LoadBalancerArn>
        <Scheme>internet-facing</Scheme>
        <LoadBalancerName>my-load-balancer</LoadBalancerName>
        <VpcId>vpc-3ac0fb5f</VpcId>
        <CanonicalHostedZoneId>Z2P70J7EXAMPLE</CanonicalHostedZoneId>
        <CreatedTime>2016-03-25T21:26:12.920Z</CreatedTime>
        <AvailabilityZones>
          <member>
            <SubnetId>subnet-8360a9e7</SubnetId>
            <ZoneName>us-west-2a</ZoneName>
          </member>
          <member>
            <SubnetId>subnet-b7d581c0</SubnetId>
            <ZoneName>us-west-2b</ZoneName>
          </member>
        </AvailabilityZones>
        <SecurityGroups>
          <member>sg-5943793c</member>
        </SecurityGroups>
        <DNSName>my-load-balancer-424835706.us-west-2.elb.amazonaws.com</DNSName>
        <State>
          <Code>active</Code>
        </State>
        <Type>application</Type>
      </member>
    </LoadBalancers>
  </DescribeLoadBalancersResult>
  <ResponseMetadata>
    <RequestId>6581c0ac-f39f-11e5-bb98-57195a6eb84a</RequestId>
  </ResponseMetadata>
</DescribeLoadBalancersResponse>
```

Describe all load balancers

This example describes all of your load balancers.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeLoadBalancers
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DescribeRules

Describes the specified rules or the rules for the specified listener. You must specify either a listener or one or more rules.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

ListenerArn

The Amazon Resource Name (ARN) of the listener.

Type: String

Required: No

Marker

The marker for the next set of results. (You received this marker from a previous call.)

Type: String

Required: No

PageSize

The maximum number of results to return with this call.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 400.

Required: No

RuleArns.member.N

The Amazon Resource Names (ARN) of the rules.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

NextMarker

If there are additional results, this is the marker for the next set of results. Otherwise, this is null.

Type: String

Rules.member.N

Information about the rules.

Type: Array of Rule objects

Errors

For information about the errors that are common to all actions, see Common Errors.

ListenerNotFound

The specified listener does not exist.

HTTP Status Code: 400

RuleNotFound

The specified rule does not exist.

HTTP Status Code: 400

UnsupportedProtocol

The specified protocol is not supported.

HTTP Status Code: 400

Examples

Describe a rule

This example describes the specified rule.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeRules
```

```
&RuleArns.member.1=arn:aws:elasticloadbalancing:us-west-2:123456789012:listener-rule/
app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2/9683b2d02a6cabee
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<DescribeRulesResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <DescribeRulesResult>
    <Rules>
      <member>
        <IsDefault>false</IsDefault>
        <Conditions>
          <member>
            <Field>path-pattern</Field>
            <Values>
              <member>/img/*</member>
            </Values>
          </member>
        </Conditions>
        <Priority>10</Priority>
        <Actions>
          <member>
            <Type>forward</Type>
            <TargetGroupArn>arn:aws:elasticloadbalancing:ua-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067</TargetGroupArn>
          </member>
        </Actions>
        <RuleArn>arn:aws:elasticloadbalancing:us-west-2:123456789012:listener-rule/app/
my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2/9683b2d02a6cabee</RuleArn>
      </member>
    </Rules>
  </DescribeRulesResult>
  <ResponseMetadata>
    <RequestId>74926cf3-f3a3-11e5-b543-9f2c3fbb9bee</RequestId>
  </ResponseMetadata>
</DescribeRulesResponse>
```

Describe the rules for a listener

This example describes the rules for the specified listener. The output includes the default rule and any other rules that you've defined.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeRules
&ListenerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-
balancer/50dc6c495c0c9188/f2f7dc8efc522ab2
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<DescribeRulesResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <DescribeRulesResult>
    <Rules>
      <member>
        <IsDefault>false</IsDefault>
        <Conditions>
          <member>
            <Field>path-pattern</Field>
            <Values>
              <member>/img/*</member>
            </Values>
          </member>
        </Conditions>
        <Priority>10</Priority>
        <Actions>
          <member>
            <Type>forward</Type>
            <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067</TargetGroupArn>
          </member>
        </Actions>
        <RuleArn>arn:aws:elasticloadbalancing:us-west-2:123456789012:listener-rule/app/
my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2/9683b2d02a6cabee</RuleArn>
      </member>
      <member>
        <IsDefault>true</IsDefault>
        <Conditions />
        <Priority>default</Priority>
        <Actions>
          <member>
            <Type>forward</Type>
```

```
            <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067</TargetGroupArn>
          </member>
        </Actions>
        <RuleArn>arn:aws:elasticloadbalancing:us-west-2:123456789012:listener-rule/app/
my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2/fd906cf3d7a9d36d</RuleArn>
      </member>
    </Rules>
  </DescribeRulesResult>
  <ResponseMetadata>
    <RequestId>d8581c8d-f3a3-11e5-8a24-ffe2bf8623ae</RequestId>
  </ResponseMetadata>
</DescribeRulesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DescribeSSLPolicies

Describes the specified policies or all policies used for SSL negotiation.

For more information, see Security policies in the *Application Load Balancers Guide* or Security policies in the *Network Load Balancers Guide*.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

LoadBalancerType

The type of load balancer. The default lists the SSL policies for all load balancers.

Type: String

Valid Values: `application | network | gateway`

Required: No

Marker

The marker for the next set of results. (You received this marker from a previous call.)

Type: String

Required: No

Names.member.N

The names of the policies.

Type: Array of strings

Required: No

PageSize

The maximum number of results to return with this call.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 400.

Required: No

Response Elements

The following elements are returned by the service.

NextMarker

If there are additional results, this is the marker for the next set of results. Otherwise, this is null.

Type: String

SslPolicies.member.N

Information about the security policies.

Type: Array of SslPolicy objects

Errors

For information about the errors that are common to all actions, see Common Errors.

SSLPolicyNotFound

The specified SSL policy does not exist.

HTTP Status Code: 400

Examples

Describe the specified policy used for SSL negotiation

This example describes the specified policy used for SSL negotiation.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeSSLPolicies
&Names.member.1=ELBSecurityPolicy-2016-08
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<DescribeSSLPoliciesResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <DescribeSSLPoliciesResult>
    <SslPolicies>
      <member>
        <Ciphers>
          <member>
            <Name>ECDHE-ECDSA-AES128-GCM-SHA256</Name>
            <Priority>1</Priority>
          </member>
          <member>
            <Name>ECDHE-RSA-AES128-GCM-SHA256</Name>
            <Priority>2</Priority>
          </member>
          <member>
            <Name>ECDHE-ECDSA-AES128-SHA256</Name>
            <Priority>3</Priority>
          </member>
          ...
          <member>
            <Name>AES256-SHA</Name>
            <Priority>19</Priority>
          </member>
        </Ciphers>
        <Name>ELBSecurityPolicy-2016-08</Name>
        <SslProtocols>
          <member>TLSv1</member>
          <member>TLSv1.1</member>
          <member>TLSv1.2</member>
        </SslProtocols>
      </member>
    </SslPolicies>
  </DescribeSSLPoliciesResult>
  <ResponseMetadata>
    <RequestId>a78c9aee-f2aa-11e5-8a24-ffe2bf8623ae</RequestId>
  </ResponseMetadata>
</DescribeSSLPoliciesResponse>
```

Describe all policies used for SSL negotiation

This example describes all the policies that you can use for SSL negotiation.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeSSLPolicies
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DescribeTags

Describes the tags for the specified Elastic Load Balancing resources. You can describe the tags for one or more Application Load Balancers, Network Load Balancers, Gateway Load Balancers, target groups, listeners, or rules.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

ResourceArns.member.N

The Amazon Resource Names (ARN) of the resources. You can specify up to 20 resources in a single call.

Type: Array of strings

Required: Yes

Response Elements

The following element is returned by the service.

TagDescriptions.member.N

Information about the tags.

Type: Array of TagDescription objects

Errors

For information about the errors that are common to all actions, see Common Errors.

ListenerNotFound

The specified listener does not exist.

HTTP Status Code: 400

LoadBalancerNotFound

The specified load balancer does not exist.

HTTP Status Code: 400

RuleNotFound

The specified rule does not exist.

HTTP Status Code: 400

TargetGroupNotFound

The specified target group does not exist.

HTTP Status Code: 400

TrustStoreNotFound

The specified trust store does not exist.

HTTP Status Code: 400

Examples

Describe the tags assigned to a load balancer

This example describes the tags assigned to the specified load balancer.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeTags
&ResourceArns.member.1=arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<DescribeTagsResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <DescribeTagsResult>
    <TagDescriptions>
      <member>
        <ResourceArn>arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/
app/my-load-balancer/50dc6c495c0c9188</ResourceArn>
```

```
        <Tags>
          <member>
            <Value>lima</Value>
            <Key>project</Key>
          </member>
          <member>
            <Value>digital-media</Value>
            <Key>department</Key>
          </member>
        </Tags>
      </member>
    </TagDescriptions>
  </DescribeTagsResult>
  <ResponseMetadata>
    <RequestId>34f144db-f2d9-11e5-a53c-67205c0d10fd</RequestId>
  </ResponseMetadata>
</DescribeTagsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DescribeTargetGroupAttributes

Describes the attributes for the specified target group.

For more information, see the following:

- Target group attributes in the *Application Load Balancers Guide*
- Target group attributes in the *Network Load Balancers Guide*
- Target group attributes in the *Gateway Load Balancers Guide*

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

TargetGroupArn

The Amazon Resource Name (ARN) of the target group.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

Attributes.member.N

Information about the target group attributes

Type: Array of TargetGroupAttribute objects

Errors

For information about the errors that are common to all actions, see Common Errors.

TargetGroupNotFound

The specified target group does not exist.

HTTP Status Code: 400

Examples

Describe target group attributes

This example describes the attributes of the specified target group.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeTargetGroupAttributes
&TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-
targets/73e2d6bc24d8a067
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<DescribeTargetGroupAttributesResponse xmlns="http://
elasticloadbalancing.amazonaws.com/doc/2015-12-01/">
  <DescribeTargetGroupAttributesResult>
    <Attributes>
      <member>
        <Value>300</Value>
        <Key>deregistration_delay.timeout_seconds</Key>
      </member>
    </Attributes>
  </DescribeTargetGroupAttributesResult>
  <ResponseMetadata>
    <RequestId>54618294-f3a8-11e5-bb98-57195a6eb84a</RequestId>
  </ResponseMetadata>
</DescribeTargetGroupAttributesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DescribeTargetGroups

Describes the specified target groups or all of your target groups. By default, all target groups are described. Alternatively, you can specify one of the following to filter the results: the ARN of the load balancer, the names of one or more target groups, or the ARNs of one or more target groups.

To describe the targets for a target group, use DescribeTargetHealth. To describe the attributes of a target group, use DescribeTargetGroupAttributes.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

LoadBalancerArn

The Amazon Resource Name (ARN) of the load balancer.

Type: String

Required: No

Marker

The marker for the next set of results. (You received this marker from a previous call.)

Type: String

Required: No

Names.member.N

The names of the target groups.

Type: Array of strings

Required: No

PageSize

The maximum number of results to return with this call.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 400.

Required: No

TargetGroupArns.member.N

The Amazon Resource Names (ARN) of the target groups.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

NextMarker

If there are additional results, this is the marker for the next set of results. Otherwise, this is null.

Type: String

TargetGroups.member.N

Information about the target groups.

Type: Array of TargetGroup objects

Errors

For information about the errors that are common to all actions, see Common Errors.

LoadBalancerNotFound

The specified load balancer does not exist.

HTTP Status Code: 400

TargetGroupNotFound

The specified target group does not exist.

HTTP Status Code: 400

Examples

Describe a target group

This example describes the specified target group.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeTargetGroups
&TargetGroupArns.member.1=arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<DescribeTargetGroupsResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <DescribeTargetGroupsResult>
    <TargetGroups>
      <member>
        <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067</TargetGroupArn>
        <HealthCheckTimeoutSeconds>5</HealthCheckTimeoutSeconds>
        <HealthCheckPort>traffic-port</HealthCheckPort>
        <Matcher>
          <HttpCode>200</HttpCode>
        </Matcher>
        <TargetGroupName>my-targets</TargetGroupName>
        <HealthCheckProtocol>HTTP</HealthCheckProtocol>
        <HealthCheckPath>/</HealthCheckPath>
        <Protocol>HTTP</Protocol>
        <Port>80</Port>
        <VpcId>vpc-3ac0fb5f</VpcId>
        <HealthyThresholdCount>5</HealthyThresholdCount>
        <HealthCheckIntervalSeconds>30</HealthCheckIntervalSeconds>
        <LoadBalancerArns>
          <member>arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/
my-load-balancer/50dc6c495c0c9188</member>
        </LoadBalancerArns>
        <UnhealthyThresholdCount>2</UnhealthyThresholdCount>
      </member>
    </TargetGroups>
```

```
  </DescribeTargetGroupsResult>
  <ResponseMetadata>
    <RequestId>70092c0e-f3a9-11e5-ae48-cff02092876b</RequestId>
  </ResponseMetadata>
</DescribeTargetGroupsResponse>
```

Describe all target groups for a load balancer

This example describes all target groups for the specified load balancer.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeTargetGroups
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/
my-load-balancer/50dc6c495c0c9188
&Version=2015-12-01
&AUTHPARAMS
```

Describe all target groups

This example describes all of your target groups.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeTargetGroups
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DescribeTargetHealth

Describes the health of the specified targets or all of your targets.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

Include.member.N

Used to inclue anomaly detection information.

Type: Array of strings

Valid Values: `AnomalyDetection | All`

Required: No

TargetGroupArn

The Amazon Resource Name (ARN) of the target group.

Type: String

Required: Yes

Targets.member.N

The targets.

Type: Array of TargetDescription objects

Required: No

Response Elements

The following element is returned by the service.

TargetHealthDescriptions.member.N

Information about the health of the targets.

Type: Array of TargetHealthDescription objects

Errors

For information about the errors that are common to all actions, see Common Errors.

HealthUnavailable

The health of the specified targets could not be retrieved due to an internal error.

HTTP Status Code: 500

InvalidTarget

The specified target does not exist, is not in the same VPC as the target group, or has an unsupported instance type.

HTTP Status Code: 400

TargetGroupNotFound

The specified target group does not exist.

HTTP Status Code: 400

Examples

Describe the health of the targets for a target group

This example describes the health of the targets for the specified target group. These targets are healthy.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeTargetHealth
&TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-
targets/73e2d6bc24d8a067
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<DescribeTargetHealthResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
```

```
  <DescribeTargetHealthResult>
    <TargetHealthDescriptions>
      <member>
        <HealthCheckPort>80</HealthCheckPort>
        <TargetHealth>
          <State>healthy</State>
        </TargetHealth>
        <Target>
          <Port>80</Port>
          <Id>i-0f76fade</Id>
        </Target>
      </member>
      <member>
        <HealthCheckPort>80</HealthCheckPort>
        <TargetHealth>
          <State>healthy</State>
        </TargetHealth>
        <Target>
          <Port>80</Port>
          <Id>i-0f76fade</Id>
        </Target>
      </member>
    </TargetHealthDescriptions>
  </DescribeTargetHealthResult>
  <ResponseMetadata>
    <RequestId>c534f810-f389-11e5-9192-3fff33344cfa</RequestId>
  </ResponseMetadata>
</DescribeTargetHealthResponse>
```

Describe the health of the specified target

This example describes the health of the specified target. This target is healthy.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeTargetHealth
&TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-
targets/73e2d6bc24d8a067
&Targets.member.1.Id=i-0f76fade
&Targets.member.1.Port=80
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<DescribeTargetHealthResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <DescribeTargetHealthResult>
    <TargetHealthDescriptions>
      <member>
        <HealthCheckPort>80</HealthCheckPort>
        <TargetHealth>
          <State>healthy</State>
        </TargetHealth>
        <Target>
          <Port>80</Port>
          <Id>i-0f76fade</Id>
        </Target>
      </member>
    </TargetHealthDescriptions>
  </DescribeTargetHealthResult>
  <ResponseMetadata>
    <RequestId>c534f810-f389-11e5-9192-3fff33344cfa</RequestId>
  </ResponseMetadata>
</DescribeTargetHealthResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DescribeTrustStoreAssociations

Describes all resources associated with the specified trust store.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

Marker

The marker for the next set of results. (You received this marker from a previous call.)

Type: String

Required: No

PageSize

The maximum number of results to return with this call.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 400.

Required: No

TrustStoreArn

The Amazon Resource Name (ARN) of the trust store.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

NextMarker

If there are additional results, this is the marker for the next set of results. Otherwise, this is null.

Type: String

TrustStoreAssociations.member.N

Information about the resources the trust store is associated to.

Type: Array of TrustStoreAssociation objects

Errors

For information about the errors that are common to all actions, see Common Errors.

TrustStoreNotFound

The specified trust store does not exist.

HTTP Status Code: 400

Examples

Describe all resources associated with a trust store.

This example describes all resources associated to the specified trust store.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeTrustStoreAssociations
&TrustStoreArn=arn:aws:elasticloadbalancing:us-east-1:111122223333:truststore/my-trust-
store/3ym756xh7yj
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++

- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DescribeTrustStoreRevocations

Describes the revocation files in use by the specified trust store arn, or revocation ID.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

Marker

The marker for the next set of results. (You received this marker from a previous call.)

Type: String

Required: No

PageSize

The maximum number of results to return with this call.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 400.

Required: No

RevocationIds.member.N

The revocation IDs of the revocation files you want to describe.

Type: Array of longs

Required: No

TrustStoreArn

The Amazon Resource Name (ARN) of the trust store.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

NextMarker

If there are additional results, this is the marker for the next set of results. Otherwise, this is null.

Type: String

TrustStoreRevocations.member.N

Information about the revocation file in the trust store.

Type: Array of DescribeTrustStoreRevocation objects

Errors

For information about the errors that are common to all actions, see Common Errors.

RevocationIdNotFound

The specified revocation ID does not exist.

HTTP Status Code: 400

TrustStoreNotFound

The specified trust store does not exist.

HTTP Status Code: 400

Examples

Describe revocation file contents from a trust store.

This example describes the specified certificate revocation IDs list contents from the specified trust store.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeTrustStoreRevocations
&TrustStoreArn=arn:aws:elasticloadbalancing:us-east-1:111122223333:truststore/my-trust-
store/3ym756xh7yj
&RevocationIds.member.1.RevocationId=1
```

```
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

DescribeTrustStores

Describes all trust stores for a given account by trust store arn's or name.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

Marker

The marker for the next set of results. (You received this marker from a previous call.)

Type: String

Required: No

Names.member.N

The names of the trust stores.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 32.

Pattern: `^([a-zA-Z0-9]+-)*[a-zA-Z0-9]+$`

Required: No

PageSize

The maximum number of results to return with this call.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 400.

Required: No

TrustStoreArns.member.N

The Amazon Resource Name (ARN) of the trust store.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

NextMarker

If there are additional results, this is the marker for the next set of results. Otherwise, this is null.

Type: String

TrustStores.member.N

Information about the trust stores.

Type: Array of TrustStore objects

Errors

For information about the errors that are common to all actions, see Common Errors.

TrustStoreNotFound

The specified trust store does not exist.

HTTP Status Code: 400

Examples

Describe a trust store.

This example describes the specified trust store.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=DescribeTrustStores
&TrustStoreArns.member.1.TrustStoreArn=arn:aws:elasticloadbalancing:us-
east-1:111122223333:truststore/my-trust-store/3ym756xh7yj
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

GetTrustStoreCaCertificatesBundle

Retrieves the ca certificate bundle.

This action returns a pre-signed S3 URI which is active for ten minutes.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

TrustStoreArn

The Amazon Resource Name (ARN) of the trust store.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

Location

The ca certificate bundles Amazon S3 URI.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors.

TrustStoreNotFound

The specified trust store does not exist.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

GetTrustStoreRevocationContent

Retrieves the specified revocation file.

This action returns a pre-signed S3 URI which is active for ten minutes.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

RevocationId

The revocation ID of the revocation file.

Type: Long

Required: Yes

TrustStoreArn

The Amazon Resource Name (ARN) of the trust store.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

Location

The revocation files Amazon S3 URI.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors.

RevocationIdNotFound

The specified revocation ID does not exist.

HTTP Status Code: 400

TrustStoreNotFound

The specified trust store does not exist.

HTTP Status Code: 400

Examples

Retrieve a certificate revocation list.

This example retrieves the specified certificate revocation IDs list contents from the specified trust store and provides a pre-signed S3 URI.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=GetTrustStoreRevocationContent
&TrustStoreArn=arn:aws:elasticloadbalancing:us-east-1:111122223333:truststore/my-trust-
store/3ym756xh7yj
&RevocationId=1
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

ModifyListener

Replaces the specified properties of the specified listener. Any properties that you do not specify remain unchanged.

Changing the protocol from HTTPS to HTTP, or from TLS to TCP, removes the security policy and default certificate properties. If you change the protocol from HTTP to HTTPS, or from TCP to TLS, you must add the security policy and default certificate properties.

To add an item to a list, remove an item from a list, or update an item in a list, you must provide the entire list. For example, to add an action, specify a list with the current actions plus the new action.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

AlpnPolicy.member.N

[TLS listeners] The name of the Application-Layer Protocol Negotiation (ALPN) policy. You can specify one policy name. The following are the possible values:

- `HTTP1Only`
- `HTTP2Only`
- `HTTP2Optional`
- `HTTP2Preferred`
- None

For more information, see ALPN policies in the *Network Load Balancers Guide*.

Type: Array of strings

Required: No

Certificates.member.N

[HTTPS and TLS listeners] The default certificate for the listener. You must provide exactly one certificate. Set `CertificateArn` to the certificate ARN but do not set `IsDefault`.

To create a certificate list, use AddListenerCertificates.

Type: Array of Certificate objects

Required: No

DefaultActions.member.N

The actions for the default rule.

Type: Array of Action objects

Required: No

ListenerArn

The Amazon Resource Name (ARN) of the listener.

Type: String

Required: Yes

MutualAuthentication

The mutual authentication configuration information.

Type: MutualAuthenticationAttributes object

Required: No

Port

The port for connections from clients to the load balancer. You cannot specify a port for a Gateway Load Balancer.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 65535.

Required: No

Protocol

The protocol for connections from clients to the load balancer. Application Load Balancers support the HTTP and HTTPS protocols. Network Load Balancers support the TCP, TLS, UDP, and TCP_UDP protocols. You can't change the protocol to UDP or TCP_UDP if dual-stack mode is enabled. You cannot specify a protocol for a Gateway Load Balancer.

Type: String

Valid Values: `HTTP | HTTPS | TCP | TLS | UDP | TCP_UDP | GENEVE`

Required: No

SslPolicy

[HTTPS and TLS listeners] The security policy that defines which protocols and ciphers are supported.

For more information, see Security policies in the *Application Load Balancers Guide* or Security policies in the *Network Load Balancers Guide*.

Type: String

Required: No

Response Elements

The following element is returned by the service.

Listeners.member.N

Information about the modified listener.

Type: Array of Listener objects

Errors

For information about the errors that are common to all actions, see Common Errors.

ALPNPolicyNotFound

The specified ALPN policy is not supported.

HTTP Status Code: 400

CertificateNotFound

The specified certificate does not exist.

HTTP Status Code: 400

DuplicateListener

A listener with the specified port already exists.

HTTP Status Code: 400

IncompatibleProtocols

The specified configuration is not valid with this protocol.

HTTP Status Code: 400

InvalidConfigurationRequest

The requested configuration is not valid.

HTTP Status Code: 400

InvalidLoadBalancerAction

The requested action is not valid.

HTTP Status Code: 400

ListenerNotFound

The specified listener does not exist.

HTTP Status Code: 400

SSLPolicyNotFound

The specified SSL policy does not exist.

HTTP Status Code: 400

TargetGroupAssociationLimit

You've reached the limit on the number of load balancers per target group.

HTTP Status Code: 400

TargetGroupNotFound

The specified target group does not exist.

HTTP Status Code: 400

TooManyActions

You've reached the limit on the number of actions per rule.

HTTP Status Code: 400

TooManyCertificates

You've reached the limit on the number of certificates per load balancer.

HTTP Status Code: 400

TooManyListeners

You've reached the limit on the number of listeners per load balancer.

HTTP Status Code: 400

TooManyRegistrationsForTargetId

You've reached the limit on the number of times a target can be registered with a load balancer.

HTTP Status Code: 400

TooManyTargets

You've reached the limit on the number of targets.

HTTP Status Code: 400

TooManyUniqueTargetGroupsPerLoadBalancer

You've reached the limit on the number of unique target groups per load balancer across all listeners. If a target group is used by multiple actions for a load balancer, it is counted as only one use.

HTTP Status Code: 400

TrustStoreNotFound

The specified trust store does not exist.

HTTP Status Code: 400

TrustStoreNotReady

The specified trust store is not active.

HTTP Status Code: 400

UnsupportedProtocol

The specified protocol is not supported.

HTTP Status Code: 400

Examples

Change the default action

This example changes the default action for the specified listener.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=ModifyListener
&ListenerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-
balancer/50dc6c495c0c9188/f2f7dc8efc522ab2
&DefaultActions.member.1.Type=forward
&DefaultActions.member.1.TargetGroupArn=arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-new-targets/2453ed029918f21f
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<ModifyListenerResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <ModifyListenerResult>
    <Listeners>
      <member>
        <LoadBalancerArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188</
LoadBalancerArn>
        <Protocol>HTTP</Protocol>
        <Port>80</Port>
        <ListenerArn>arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/
my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2</ListenerArn>
        <DefaultActions>
          <member>
            <Type>forward</Type>
```

```
            <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-new-targets/2453ed029918f21f</TargetGroupArn>
          </member>
        </DefaultActions>
      </member>
    </Listeners>
  </ModifyListenerResult>
  <ResponseMetadata>
    <RequestId>9759b8df-f462-11e5-8a24-ffe2bf8623ae</RequestId>
  </ResponseMetadata>
</ModifyListenerResponse>
```

Change the default certificate

This example changes the default certificate for the specified HTTPS listener.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=ModifyListener
&ListenerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-
balancer/50dc6c495c0c9188/0467ef3c8400ae65
&Certificates.member.1.CertificateArn=arn:aws:iam::123456789012:server-certificate/my-
new-server-cert
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<ModifyListenerResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <ModifyListenerResult>
    <Listeners>
      <member>
        <LoadBalancerArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188</
LoadBalancerArn>
        <Protocol>HTTPS</Protocol>
        <Certificates>
          <member>
            <CertificateArn>arn:aws:iam::123456789012:server-certificate/my-new-server-
cert</CertificateArn>
          </member>
        </Certificates>
```

```
        <Port>443</Port>
        <SslPolicy>ELBSecurityPolicy-2016-08</SslPolicy>
        <ListenerArn>arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/
my-load-balancer/50dc6c495c0c9188/0467ef3c8400ae65</ListenerArn>
        <DefaultActions>
          <member>
            <Type>forward</Type>
            <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067</TargetGroupArn>
          </member>
        </DefaultActions>
      </member>
    </Listeners>
  </ModifyListenerResult>
  <ResponseMetadata>
    <RequestId>3f72dcb2-f463-11e5-b95d-3b2c1831fc26</RequestId>
  </ResponseMetadata> </ModifyListenerResponse>
```

Change the security policy

This example changes the security policy for the specified HTTPS listener.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=ModifyListener
&ListenerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-
balancer/50dc6c495c0c9188/0467ef3c8400ae65
&SslPolicy=ELBSecurityPolicy-2016-08
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<ModifyListenerResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <ModifyListenerResult>
    <Listeners>
      <member>
        <LoadBalancerArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188</
LoadBalancerArn>
        <Protocol>HTTPS</Protocol>
        <Certificates>
```

```
          <member>
            <CertificateArn>arn:aws:iam::123456789012:server-certificate/my-server-
cert</CertificateArn>
          </member>
        </Certificates>
        <Port>443</Port>
        <SslPolicy>ELBSecurityPolicy-2016-08</SslPolicy>
        <ListenerArn>arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/
my-load-balancer/50dc6c495c0c9188/0467ef3c8400ae65</ListenerArn>
        <DefaultActions>
          <member>
            <Type>forward</Type>
            <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067</TargetGroupArn>
          </member>
        </DefaultActions>
      </member>
    </Listeners>
  </ModifyListenerResult>
  <ResponseMetadata>
    <RequestId>3f72dcb2-f463-11e5-b95d-3b2c1831fc26</RequestId>
  </ResponseMetadata>
</ModifyListenerResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

ModifyLoadBalancerAttributes

Modifies the specified attributes of the specified Application Load Balancer, Network Load Balancer, or Gateway Load Balancer.

If any of the specified attributes can't be modified as requested, the call fails. Any existing attributes that you do not modify retain their current values.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

Attributes.member.N

The load balancer attributes.

Type: Array of LoadBalancerAttribute objects

Array Members: Maximum number of 20 items.

Required: Yes

LoadBalancerArn

The Amazon Resource Name (ARN) of the load balancer.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

Attributes.member.N

Information about the load balancer attributes.

Type: Array of LoadBalancerAttribute objects

Array Members: Maximum number of 20 items.

Errors

For information about the errors that are common to all actions, see Common Errors.

InvalidConfigurationRequest

The requested configuration is not valid.

HTTP Status Code: 400

LoadBalancerNotFound

The specified load balancer does not exist.

HTTP Status Code: 400

Examples

Enable deletion protection

This example enables deletion protection for the specified load balancer.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=ModifyLoadBalancerAttributes
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/
my-load-balancer/50dc6c495c0c9188
&Attributes.member.1.Key=deletion_protection.enabled
&Attributes.member.1.Value=true
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<ModifyLoadBalancerAttributesResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <ModifyLoadBalancerAttributesResult>
    <Attributes>
      <member>
        <Value>true</Value>
        <Key>deletion_protection.enabled</Key>
      </member>
      <member>
```

```
        <Value>false</Value>
        <Key>access_logs.s3.enabled</Key>
      </member>
      <member>
        <Value>60</Value>
        <Key>idle_timeout.timeout_seconds</Key>
      </member>
      <member>
        <Value />
        <Key>access_logs.s3.prefix</Key>
      </member>
      <member>
        <Value />
        <Key>access_logs.s3.bucket</Key>
      </member>
    </Attributes>
  </ModifyLoadBalancerAttributesResult>
  <ResponseMetadata>
    <RequestId>b2066529-f42c-11e5-b543-9f2c3fbb9bee</RequestId>
  </ResponseMetadata>
</ModifyLoadBalancerAttributesResponse>
```

Change the idle timeout

This example changes the idle timeout value for the specified Application Load Balancer.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=ModifyLoadBalancerAttributes
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/
my-load-balancer/50dc6c495c0c9188
&Attributes.member.1.Key=idle_timeout.timeout_seconds
&Attributes.member.1.Value=30
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<ModifyLoadBalancerAttributesResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <ModifyLoadBalancerAttributesResult>
    <Attributes>
      <member>
```

```
        <Value>30</Value>
        <Key>idle_timeout.timeout_seconds</Key>
      </member>
      <member>
        <Value>false</Value>
        <Key>access_logs.s3.enabled</Key>
      </member>
      <member>
        <Value />
        <Key>access_logs.s3.prefix</Key>
      </member>
      <member>
        <Value>false</Value>
        <Key>deletion_protection.enabled</Key>
      </member>
      <member>
        <Value />
        <Key>access_logs.s3.bucket</Key>
      </member>
    </Attributes>
  </ModifyLoadBalancerAttributesResult>
  <ResponseMetadata>
    <RequestId>d3f6e6dc-f42c-11e5-b5ae-8bfaf16614ac</RequestId>
  </ResponseMetadata>
</ModifyLoadBalancerAttributesResponse>
```

Enable access logs

This example enables access logs for the specified Application Load Balancer. The S3 bucket must exist in the same Region as the load balancer and must have a bucket policy that grants Elastic Load Balancing permissions to write to the bucket.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=ModifyLoadBalancerAttributes
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/
my-load-balancer/50dc6c495c0c9188
&Attributes.member.1.Key=access_logs.s3.enabled
&Attributes.member.1.Value=true
&Attributes.member.2.Key=access_logs.s3.bucket
&Attributes.member.2.Value=my-loadbalancer-logs
&Attributes.member.3.Key=access_logs.s3.prefix
&Attributes.member.3.Value=myapp
```

```
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<ModifyLoadBalancerAttributesResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <ModifyLoadBalancerAttributesResult>
    <Attributes>
      <member>
        <Value>true</Value>
        <Key>access_logs.s3.enabled</Key>
      </member>
      <member>
        <Value>my-loadbalancer-logs</Value>
        <Key>access_logs.s3.bucket</Key>
      </member>
      <member>
        <Value>myapp</Value>
        <Key>access_logs.s3.prefix</Key>
      </member>
      <member>
        <Value>60</Value>
        <Key>idle_timeout.timeout_seconds</Key>
      </member>
      <member>
        <Value>false</Value>
        <Key>deletion_protection.enabled</Key>
      </member>
    </Attributes>
  </ModifyLoadBalancerAttributesResult>
  <ResponseMetadata>
    <RequestId>095cb76d-f52e-11e5-bb98-57195a6eb84a</RequestId>
  </ResponseMetadata>
</ModifyLoadBalancerAttributesResponse>
```

Enable connection logs.

This example enables connection logs, setting the specified S3 bucket and prefix location.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=ModifyLoadBalancerAttributes
```

```
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/
my-load-balancer/50dc6c495c0c9188
&Attributes.member.1.Key=connection_logs.s3.enabled
&Attributes.member.1.Value=true
&Attributes.member.2.Key=connection_logs.s3.bucket
&Attributes.member.2.Value=my-loadbalancer-connection-logs
&Attributes.member.3.Key=connection_logs.s3.prefix
&Attributes.member.3.Value=myapp-connections
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

ModifyRule

Replaces the specified properties of the specified rule. Any properties that you do not specify are unchanged.

To add an item to a list, remove an item from a list, or update an item in a list, you must provide the entire list. For example, to add an action, specify a list with the current actions plus the new action.

To modify the actions for the default rule, use ModifyListener.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

Actions.member.N

The actions.

Type: Array of Action objects

Required: No

Conditions.member.N

The conditions.

Type: Array of RuleCondition objects

Required: No

RuleArn

The Amazon Resource Name (ARN) of the rule.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

Rules.member.N

Information about the modified rule.

Type: Array of Rule objects

Errors

For information about the errors that are common to all actions, see Common Errors.

IncompatibleProtocols

The specified configuration is not valid with this protocol.

HTTP Status Code: 400

InvalidLoadBalancerAction

The requested action is not valid.

HTTP Status Code: 400

OperationNotPermitted

This operation is not allowed.

HTTP Status Code: 400

RuleNotFound

The specified rule does not exist.

HTTP Status Code: 400

TargetGroupAssociationLimit

You've reached the limit on the number of load balancers per target group.

HTTP Status Code: 400

TargetGroupNotFound

The specified target group does not exist.

HTTP Status Code: 400

TooManyActions

You've reached the limit on the number of actions per rule.

HTTP Status Code: 400

TooManyRegistrationsForTargetId

You've reached the limit on the number of times a target can be registered with a load balancer.

HTTP Status Code: 400

TooManyTargets

You've reached the limit on the number of targets.

HTTP Status Code: 400

TooManyUniqueTargetGroupsPerLoadBalancer

You've reached the limit on the number of unique target groups per load balancer across all listeners. If a target group is used by multiple actions for a load balancer, it is counted as only one use.

HTTP Status Code: 400

UnsupportedProtocol

The specified protocol is not supported.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2

- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

ModifyTargetGroup

Modifies the health checks used when evaluating the health state of the targets in the specified target group.

To monitor the health of the targets, use DescribeTargetHealth.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

HealthCheckEnabled

Indicates whether health checks are enabled.

Type: Boolean

Required: No

HealthCheckIntervalSeconds

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

Type: Integer

Valid Range: Minimum value of 5. Maximum value of 300.

Required: No

HealthCheckPath

[HTTP/HTTPS health checks] The destination for health checks on the targets.

[HTTP1 or HTTP2 protocol version] The ping path. The default is /.

[GRPC protocol version] The path of a custom health check method with the format /package.service/method. The default is /AWS.ALB/healthcheck.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

HealthCheckPort

The port the load balancer uses when performing health checks on targets.

Type: String

Required: No

HealthCheckProtocol

The protocol the load balancer uses when performing health checks on targets. For Application Load Balancers, the default is HTTP. For Network Load Balancers and Gateway Load Balancers, the default is TCP. The TCP protocol is not supported for health checks if the protocol of the target group is HTTP or HTTPS. It is supported for health checks only if the protocol of the target group is TCP, TLS, UDP, or TCP_UDP. The GENEVE, TLS, UDP, and TCP_UDP protocols are not supported for health checks.

Type: String

Valid Values: `HTTP | HTTPS | TCP | TLS | UDP | TCP_UDP | GENEVE`

Required: No

HealthCheckTimeoutSeconds

[HTTP/HTTPS health checks] The amount of time, in seconds, during which no response means a failed health check.

Type: Integer

Valid Range: Minimum value of 2. Maximum value of 120.

Required: No

HealthyThresholdCount

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

Type: Integer

Valid Range: Minimum value of 2. Maximum value of 10.

Required: No

Matcher

[HTTP/HTTPS health checks] The HTTP or gRPC codes to use when checking for a successful response from a target. For target groups with a protocol of TCP, TCP_UDP, UDP or TLS the range is 200-599. For target groups with a protocol of HTTP or HTTPS, the range is 200-499. For target groups with a protocol of GENEVE, the range is 200-399.

Type: Matcher object

Required: No

TargetGroupArn

The Amazon Resource Name (ARN) of the target group.

Type: String

Required: Yes

UnhealthyThresholdCount

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

Type: Integer

Valid Range: Minimum value of 2. Maximum value of 10.

Required: No

Response Elements

The following element is returned by the service.

TargetGroups.member.N

Information about the modified target group.

Type: Array of TargetGroup objects

Errors

For information about the errors that are common to all actions, see Common Errors.

InvalidConfigurationRequest

The requested configuration is not valid.

HTTP Status Code: 400

TargetGroupNotFound

The specified target group does not exist.

HTTP Status Code: 400

Examples

Modify the health check configuration for a target group

This example changes the configuration of the health checks used to evaluate the health of the targets for the specified target group.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=ModifyTargetGroup
&TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-
https-targets/2453ed029918f21f
&HealthCheckProtocol=HTTPS
&HealthCheckPort=443
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<ModifyTargetGroupResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <ModifyTargetGroupResult>
    <TargetGroups>
      <member>
        <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-https-targets/2453ed029918f21f</TargetGroupArn>
        <HealthCheckTimeoutSeconds>5</HealthCheckTimeoutSeconds>
        <HealthCheckPort>443</HealthCheckPort>
        <Matcher>
          <HttpCode>200</HttpCode>
```

```
        </Matcher>
        <TargetGroupName>my-https-targets</TargetGroupName>
        <HealthCheckProtocol>HTTPS</HealthCheckProtocol>
        <Protocol>HTTPS</Protocol>
        <Port>443</Port>
        <HealthyThresholdCount>5</HealthyThresholdCount>
        <VpcId>vpc-3ac0fb5f</VpcId>
        <HealthCheckIntervalSeconds>30</HealthCheckIntervalSeconds>
        <LoadBalancerArns>
          <member>arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/
my-load-balancer/50dc6c495c0c9188</member>
        </LoadBalancerArns>
        <UnhealthyThresholdCount>2</UnhealthyThresholdCount>
      </member>
    </TargetGroups>
  </ModifyTargetGroupResult>
  <ResponseMetadata>
    <RequestId>8525b334-f466-11e5-aa04-33bf366f62e2</RequestId>
  </ResponseMetadata>
</ModifyTargetGroupResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

ModifyTargetGroupAttributes

Modifies the specified attributes of the specified target group.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

Attributes.member.N

The attributes.

Type: Array of TargetGroupAttribute objects

Required: Yes

TargetGroupArn

The Amazon Resource Name (ARN) of the target group.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

Attributes.member.N

Information about the attributes.

Type: Array of TargetGroupAttribute objects

Errors

For information about the errors that are common to all actions, see Common Errors.

InvalidConfigurationRequest

The requested configuration is not valid.

HTTP Status Code: 400

TargetGroupNotFound

The specified target group does not exist.

HTTP Status Code: 400

Examples

Modify the deregistration delay timeout

This example sets the deregistration delay timeout for the specified target group to the specified value.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=ModifyTargetGroupAttributes
&TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-
targets/73e2d6bc24d8a067
&Attributes.member.1.Key=deregistration_delay.timeout_seconds
&Attributes.member.1.Value=600
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<ModifyTargetGroupAttributesResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <ModifyTargetGroupAttributesResult>
    <Attributes>
      <member>
        <Value>600</Value>
        <Key>deregistration_delay.timeout_seconds</Key>
      </member>
    </Attributes>
  </ModifyTargetGroupAttributesResult>
  <ResponseMetadata>
    <RequestId>bb8c272b-f455-11e5-a53c-67205c0d10fd</RequestId>
  </ResponseMetadata>
</ModifyTargetGroupAttributesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

ModifyTrustStore

Update the ca certificate bundle for a given trust store.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

CaCertificatesBundleS3Bucket

The Amazon S3 bucket for the ca certificates bundle.

Type: String

Required: Yes

CaCertificatesBundleS3Key

The Amazon S3 path for the ca certificates bundle.

Type: String

Required: Yes

CaCertificatesBundleS3ObjectVersion

The Amazon S3 object version for the ca certificates bundle. If undefined the current version is used.

Type: String

Required: No

TrustStoreArn

The Amazon Resource Name (ARN) of the trust store.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

TrustStores.member.N

Information about the modified trust store.

Type: Array of TrustStore objects

Errors

For information about the errors that are common to all actions, see Common Errors.

CaCertificatesBundleNotFound

The specified ca certificate bundle does not exist.

HTTP Status Code: 400

InvalidCaCertificatesBundle

The specified ca certificate bundle is in an invalid format, or corrupt.

HTTP Status Code: 400

TrustStoreNotFound

The specified trust store does not exist.

HTTP Status Code: 400

Examples

Modify a trust store.

This example replaces the ca certificate bundle in the specified trust store.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=ModifyTrustStore
&TrustStoreArn=arn:aws:elasticloadbalancing:us-east-1:111122223333:truststore/my-s3-
bucket/d5f637c79df8c943
&CaCertificatesBundleS3Bucket=my-new-s3-bucket
&CaCertificatesBundleS3Key=CACertBundle.pem
&Version=2015-12-01
```

```
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

RegisterTargets

Registers the specified targets with the specified target group.

If the target is an EC2 instance, it must be in the `running` state when you register it.

By default, the load balancer routes requests to registered targets using the protocol and port for the target group. Alternatively, you can override the port for a target when you register it. You can register each EC2 instance or IP address with the same target group multiple times using different ports.

With a Network Load Balancer, you cannot register instances by instance ID if they have the following instance types: C1, CC1, CC2, CG1, CG2, CR1, CS1, G1, G2, HI1, HS1, M1, M2, M3, and T1. You can register instances of these types by IP address.

To remove a target from a target group, use DeregisterTargets.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

TargetGroupArn

The Amazon Resource Name (ARN) of the target group.

Type: String

Required: Yes

Targets.member.N

The targets.

Type: Array of TargetDescription objects

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors.

InvalidTarget

The specified target does not exist, is not in the same VPC as the target group, or has an unsupported instance type.

HTTP Status Code: 400

TargetGroupNotFound

The specified target group does not exist.

HTTP Status Code: 400

TooManyRegistrationsForTargetId

You've reached the limit on the number of times a target can be registered with a load balancer.

HTTP Status Code: 400

TooManyTargets

You've reached the limit on the number of targets.

HTTP Status Code: 400

Examples

Register targets by instance ID

This example registers the specified instance IDs with the specified target group.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=RegisterTargets
&TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-
targets/73e2d6bc24d8a067
&Targets.member.1.Id=i-80c8dd94
&Targets.member.2.Id=i-ceddcd4d
&Version=2015-12-01
&AUTHPARAMS
```

Register targets by IP address

This example registers the specified IP addresses with the specified target group.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=RegisterTargets
&TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-
targets/73e2d6bc24d8a067
&Targets.member.1.Id=10.0.42.17
&Targets.member.2.Id=192.168.0.3
&Targets.member.2.AvailabilityZone=all
&Version=2015-12-01
&AUTHPARAMS
```

Register targets by instance ID using port overrides

This example registers the specified instance with the specified target group using multiple ports. This enables you to register microservices on the same instance as targets in the target group.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=RegisterTargets
&TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-
targets/73e2d6bc24d8a067
&Targets.member.1.Id=i-80c8dd94
&Targets.member.1.Port=80
&Targets.member.2.Id=i-80c8dd94
&Targets.member.2.Port=766
&Version=2015-12-01
&AUTHPARAMS
```

Register a Lambda function as a target

This example registers the specified Lambda function with the specified target group. You must grant Elastic Load Balancing permission to invoke the Lambda function. For more information, see Lambda functions as targets in the *Application Load Balancers Guide*.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=RegisterTargets
&TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-
targets/73e2d6bc24d8a067
&Targets.member.1.Id=aws:lambda:us-west-2:123456789012:function:my-function
&Version=2015-12-01
```

```
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

RemoveListenerCertificates

Removes the specified certificate from the certificate list for the specified HTTPS or TLS listener.

You can't remove the default certificate for a listener. To replace the default certificate, call ModifyListener.

To list the certificates for your listener, use DescribeListenerCertificates.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

Certificates.member.N

The certificate to remove. You can specify one certificate per call. Set `CertificateArn` to the certificate ARN but do not set `IsDefault`.

Type: Array of Certificate objects

Required: Yes

ListenerArn

The Amazon Resource Name (ARN) of the listener.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors.

ListenerNotFound

The specified listener does not exist.

HTTP Status Code: 400

OperationNotPermitted

This operation is not allowed.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

RemoveTags

Removes the specified tags from the specified Elastic Load Balancing resources. You can remove the tags for one or more Application Load Balancers, Network Load Balancers, Gateway Load Balancers, target groups, listeners, or rules.

To list the current tags for your resources, use DescribeTags.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

ResourceArns.member.N

The Amazon Resource Name (ARN) of the resource.

Type: Array of strings

Required: Yes

TagKeys.member.N

The tag keys for the tags to remove.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^([\p{L}\p{Z}\p{N}_.:/=+\-@]*)$`

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors.

ListenerNotFound

The specified listener does not exist.

HTTP Status Code: 400

LoadBalancerNotFound

The specified load balancer does not exist.

HTTP Status Code: 400

RuleNotFound

The specified rule does not exist.

HTTP Status Code: 400

TargetGroupNotFound

The specified target group does not exist.

HTTP Status Code: 400

TooManyTags

You've reached the limit on the number of tags for this resource.

HTTP Status Code: 400

TrustStoreNotFound

The specified trust store does not exist.

HTTP Status Code: 400

Examples

Remove tags from a load balancer

This example removes the specified tags from the specified load balancer.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=RemoveTags
&ResourceArns.member.1=arn:aws:elasticloadbalancing:us-
west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188
&TagKeys.member.1=project
&TagKeys.member.2=department
&Version=2015-12-01
```

```
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

RemoveTrustStoreRevocations

Removes the specified revocation file from the specified trust store.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

RevocationIds.member.N

The revocation IDs of the revocation files you want to remove.

Type: Array of longs

Required: Yes

TrustStoreArn

The Amazon Resource Name (ARN) of the trust store.

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors.

RevocationIdNotFound

The specified revocation ID does not exist.

HTTP Status Code: 400

TrustStoreNotFound

The specified trust store does not exist.

HTTP Status Code: 400

Examples

Remove a revocation file from a trust store.

This example removes the specified certificate revocation ID from the specified trust store.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=RemoveTrustStoreRevocations
&TrustStoreArn=arn:aws:elasticloadbalancing:us-east-1:111122223333:truststore/my-trust-
store/3ym756xh7yj
&RevocationIds.member.1.RevocationID=1
&Version=2015-12-01
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

SetIpAddressType

Sets the type of IP addresses used by the subnets of the specified load balancer.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

IpAddressType

The IP address type. The possible values are `ipv4` (for IPv4 addresses) and `dualstack` (for IPv4 and IPv6 addresses). You can't specify `dualstack` for a load balancer with a UDP or TCP_UDP listener.

Type: String

Valid Values: `ipv4 | dualstack`

Required: Yes

LoadBalancerArn

The Amazon Resource Name (ARN) of the load balancer.

Type: String

Required: Yes

Response Elements

The following element is returned by the service.

IpAddressType

The IP address type.

Type: String

Valid Values: `ipv4 | dualstack`

Errors

For information about the errors that are common to all actions, see Common Errors.

InvalidConfigurationRequest

The requested configuration is not valid.

HTTP Status Code: 400

InvalidSubnet

The specified subnet is out of available addresses.

HTTP Status Code: 400

LoadBalancerNotFound

The specified load balancer does not exist.

HTTP Status Code: 400

Examples

Set the IP address type of a load balancer

This example sets the IP address type of the specified load balancer to `dualstack` to support IPv4 and IPv6 addresses. The load balancer subnets must have associated IPv6 CIDR blocks.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=SetIpAddressType
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/
my-load-balancer/50dc6c495c0c9188
&IpAddressType=dualstack
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<SetIpAddressTypeResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <SetIpAddressTypeResult>
    <IpAddressType>dualstack</IpAddressType>
  </SetIpAddressTypeResult>
  <ResponseMetadata>
    <RequestId>a127426b-f3ab-11e5-9192-3fff33344cfa</RequestId>
```

```
  </ResponseMetadata>
</SetIpAddressTypeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

SetRulePriorities

Sets the priorities of the specified rules.

You can reorder the rules as long as there are no priority conflicts in the new order. Any existing rules that you do not specify retain their current priority.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

RulePriorities.member.N

The rule priorities.

Type: Array of RulePriorityPair objects

Required: Yes

Response Elements

The following element is returned by the service.

Rules.member.N

Information about the rules.

Type: Array of Rule objects

Errors

For information about the errors that are common to all actions, see Common Errors.

OperationNotPermitted

This operation is not allowed.

HTTP Status Code: 400

PriorityInUse

The specified priority is in use.

HTTP Status Code: 400

RuleNotFound

The specified rule does not exist.

HTTP Status Code: 400

Examples

Set the rule priority

This example sets the priority of the specified rule.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=SetRulePriorities
&RulePriorities.member.1.RuleArn=arn:aws:elasticloadbalancing:us-
west-2:123456789012:listener-rule/app/my-load-balancer/50dc6c495c0c9188/
f2f7dc8efc522ab2/1291d13826f405c3
&RulePriorities.member.1.Priority=5
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<SetRulePrioritiesResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <SetRulePrioritiesResult>
    <Rules>
      <member>
        <IsDefault>false</IsDefault>
        <Conditions>
          <member>
            <Field>path-pattern</Field>
            <Values>
              <member>/img/*</member>
            </Values>
          </member>
        </Conditions>
        <Priority>5</Priority>
        <Actions>
```

```
          <member>
            <Type>forward</Type>
            <TargetGroupArn>arn:aws:elasticloadbalancing:us-
west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067</TargetGroupArn>
          </member>
        </Actions>
        <RuleArn>arn:aws:elasticloadbalancing:us-west-2:123456789012:listener-rule/app/
my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2/1291d13826f405c3</RuleArn>
      </member>
    </Rules>
  </SetRulePrioritiesResult>
  <ResponseMetadata>
    <RequestId>4d7a8036-f3a7-11e5-9c02-8fd20490d5a6</RequestId>
  </ResponseMetadata>
</SetRulePrioritiesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

SetSecurityGroups

Associates the specified security groups with the specified Application Load Balancer or Network Load Balancer. The specified security groups override the previously associated security groups.

You can't perform this operation on a Network Load Balancer unless you specified a security group for the load balancer when you created it.

You can't associate a security group with a Gateway Load Balancer.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

EnforceSecurityGroupInboundRulesOnPrivateLinkTraffic

Indicates whether to evaluate inbound security group rules for traffic sent to a Network Load Balancer through AWS PrivateLink. The default is on.

Type: String

Valid Values: `on | off`

Required: No

LoadBalancerArn

The Amazon Resource Name (ARN) of the load balancer.

Type: String

Required: Yes

SecurityGroups.member.N

The IDs of the security groups.

Type: Array of strings

Required: Yes

Response Elements

The following elements are returned by the service.

EnforceSecurityGroupInboundRulesOnPrivateLinkTraffic

Indicates whether to evaluate inbound security group rules for traffic sent to a Network Load Balancer through AWS PrivateLink.

Type: String

Valid Values: `on` | `off`

SecurityGroupIds.member.N

The IDs of the security groups associated with the load balancer.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see Common Errors.

InvalidConfigurationRequest

The requested configuration is not valid.

HTTP Status Code: 400

InvalidSecurityGroup

The specified security group does not exist.

HTTP Status Code: 400

LoadBalancerNotFound

The specified load balancer does not exist.

HTTP Status Code: 400

Examples

Associate a security group with a load balancer

This example associates the specified security group with the specified load balancer.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=SetSecurityGroups
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/
my-load-balancer/50dc6c495c0c9188
&SecurityGroups.member.1=sg-5943793c
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<SetSecurityGroupsResponse xmlns="http://elasticloadbalancing.amazonaws.com/
doc/2015-12-01/">
  <SetSecurityGroupsResult>
    <SecurityGroupIds>
      <member>sg-5943793c</member>
    </SecurityGroupIds>
  </SetSecurityGroupsResult>
  <ResponseMetadata>
    <RequestId>a127426b-f3ab-11e5-9192-3fff33344cfa</RequestId>
  </ResponseMetadata>
</SetSecurityGroupsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

SetSubnets

Enables the Availability Zones for the specified public subnets for the specified Application Load Balancer, Network Load Balancer or Gateway Load Balancer. The specified subnets replace the previously enabled subnets.

When you specify subnets for a Network Load Balancer, or Gateway Load Balancer you must include all subnets that were enabled previously, with their existing configurations, plus any additional subnets.

Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

IpAddressType

[Network Load Balancers] The type of IP addresses used by the subnets for your load balancer. The possible values are `ipv4` (for IPv4 addresses) and `dualstack` (for IPv4 and IPv6 addresses). You can't specify `dualstack` for a load balancer with a UDP or TCP_UDP listener.

[Gateway Load Balancers] The type of IP addresses used by the subnets for your load balancer. The possible values are `ipv4` (for IPv4 addresses) and `dualstack` (for IPv4 and IPv6 addresses).

Type: String

Valid Values: `ipv4 | dualstack`

Required: No

LoadBalancerArn

The Amazon Resource Name (ARN) of the load balancer.

Type: String

Required: Yes

SubnetMappings.member.N

The IDs of the public subnets. You can specify only one subnet per Availability Zone. You must specify either subnets or subnet mappings.

[Application Load Balancers] You must specify subnets from at least two Availability Zones. You cannot specify Elastic IP addresses for your subnets.

[Application Load Balancers on Outposts] You must specify one Outpost subnet.

[Application Load Balancers on Local Zones] You can specify subnets from one or more Local Zones.

[Network Load Balancers] You can specify subnets from one or more Availability Zones. You can specify one Elastic IP address per subnet if you need static IP addresses for your internet-facing load balancer. For internal load balancers, you can specify one private IP address per subnet from the IPv4 range of the subnet. For internet-facing load balancer, you can specify one IPv6 address per subnet.

[Gateway Load Balancers] You can specify subnets from one or more Availability Zones.

Type: Array of SubnetMapping objects

Required: No

Subnets.member.N

The IDs of the public subnets. You can specify only one subnet per Availability Zone. You must specify either subnets or subnet mappings.

[Application Load Balancers] You must specify subnets from at least two Availability Zones.

[Application Load Balancers on Outposts] You must specify one Outpost subnet.

[Application Load Balancers on Local Zones] You can specify subnets from one or more Local Zones.

[Network Load Balancers] You can specify subnets from one or more Availability Zones.

[Gateway Load Balancers] You can specify subnets from one or more Availability Zones.

Type: Array of strings

Required: No

Response Elements

The following elements are returned by the service.

AvailabilityZones.member.N

Information about the subnets.

Type: Array of AvailabilityZone objects

IpAddressType

[Network Load Balancers] The IP address type.

[Gateway Load Balancers] The IP address type.

Type: String

Valid Values: `ipv4 | dualstack`

Errors

For information about the errors that are common to all actions, see Common Errors.

AllocationIdNotFound

The specified allocation ID does not exist.

HTTP Status Code: 400

AvailabilityZoneNotSupported

The specified Availability Zone is not supported.

HTTP Status Code: 400

InvalidConfigurationRequest

The requested configuration is not valid.

HTTP Status Code: 400

InvalidSubnet

The specified subnet is out of available addresses.

HTTP Status Code: 400

LoadBalancerNotFound

The specified load balancer does not exist.

HTTP Status Code: 400

SubnetNotFound

The specified subnet does not exist.

HTTP Status Code: 400

Examples

Enable Availability Zones for a load balancer

This example enables the Availability Zone for the specified subnet for the specified load balancer.

Sample Request

```
https://elasticloadbalancing.amazonaws.com/?Action=SetSubnets
&LoadBalancerArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/
my-load-balancer/50dc6c495c0c9188
&Subnets.member.1=subnet-8360a9e7
&Subnets.member.2=subnet-b7d581c0
&Version=2015-12-01
&AUTHPARAMS
```

Sample Response

```
<SetSubnetsResponse xmlns="http://elasticloadbalancing.amazonaws.com/doc/2015-12-01/">
  <SetSubnetsResult>
    <AvailabilityZones>
      <member>
        <SubnetId>subnet-8360a9e7</SubnetId>
        <ZoneName>us-west-2a</ZoneName>
      </member>
      <member>
        <SubnetId>subnet-b7d581c0</SubnetId>
        <ZoneName>us-west-2b</ZoneName>
      </member>
    </AvailabilityZones>
  </SetSubnetsResult>
  <ResponseMetadata>
    <RequestId>c1a80803-f3ab-11e5-b673-8d4a8a9e6f48</RequestId>
  </ResponseMetadata>
```

```
</SetSubnetsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

Data Types

The Elastic Load Balancing API contains several data types that various actions use. This section describes each data type in detail.

> **Note**
>
> The order of each element in a data type structure is not guaranteed. Applications should not assume a particular order.

The following data types are supported:

- Action
- AnomalyDetection
- AuthenticateCognitoActionConfig
- AuthenticateOidcActionConfig
- AvailabilityZone
- Certificate
- Cipher
- DescribeTrustStoreRevocation
- FixedResponseActionConfig
- ForwardActionConfig
- HostHeaderConditionConfig
- HttpHeaderConditionConfig
- HttpRequestMethodConditionConfig
- Limit
- Listener
- LoadBalancer
- LoadBalancerAddress
- LoadBalancerAttribute
- LoadBalancerState
- Matcher

- MutualAuthenticationAttributes
- PathPatternConditionConfig
- QueryStringConditionConfig
- QueryStringKeyValuePair
- RedirectActionConfig
- RevocationContent
- Rule
- RuleCondition
- RulePriorityPair
- SourceIpConditionConfig
- SslPolicy
- SubnetMapping
- Tag
- TagDescription
- TargetDescription
- TargetGroup
- TargetGroupAttribute
- TargetGroupStickinessConfig
- TargetGroupTuple
- TargetHealth
- TargetHealthDescription
- TrustStore
- TrustStoreAssociation
- TrustStoreRevocation

Action

Information about an action.

Each rule must include exactly one of the following types of actions: `forward`, `fixed-response`, or `redirect`, and it must be the last action to be performed.

Contents

Type

The type of action.

Type: String

Valid Values: `forward | authenticate-oidc | authenticate-cognito | redirect | fixed-response`

Required: Yes

AuthenticateCognitoConfig

[HTTPS listeners] Information for using Amazon Cognito to authenticate users. Specify only when `Type` is `authenticate-cognito`.

Type: AuthenticateCognitoActionConfig object

Required: No

AuthenticateOidcConfig

[HTTPS listeners] Information about an identity provider that is compliant with OpenID Connect (OIDC). Specify only when `Type` is `authenticate-oidc`.

Type: AuthenticateOidcActionConfig object

Required: No

FixedResponseConfig

[Application Load Balancer] Information for creating an action that returns a custom HTTP response. Specify only when `Type` is `fixed-response`.

Type: FixedResponseActionConfig object

Required: No

ForwardConfig

Information for creating an action that distributes requests among one or more target groups. For Network Load Balancers, you can specify a single target group. Specify only when `Type` is `forward`. If you specify both `ForwardConfig` and `TargetGroupArn`, you can specify only one target group using `ForwardConfig` and it must be the same target group specified in `TargetGroupArn`.

Type: ForwardActionConfig object

Required: No

Order

The order for the action. This value is required for rules with multiple actions. The action with the lowest value for order is performed first.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 50000.

Required: No

RedirectConfig

[Application Load Balancer] Information for creating a redirect action. Specify only when `Type` is `redirect`.

Type: RedirectActionConfig object

Required: No

TargetGroupArn

The Amazon Resource Name (ARN) of the target group. Specify only when `Type` is `forward` and you want to route to a single target group. To route to one or more target groups, use `ForwardConfig` instead.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

AnomalyDetection

Information about anomaly detection and mitigation.

Contents

MitigationInEffect

Indicates whether anomaly mitigation is in progress.

Type: String

Valid Values: `yes | no`

Required: No

Result

The latest anomaly detection result.

Type: String

Valid Values: `anomalous | normal`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

AuthenticateCognitoActionConfig

Request parameters to use when integrating with Amazon Cognito to authenticate users.

Contents

UserPoolArn

The Amazon Resource Name (ARN) of the Amazon Cognito user pool.

Type: String

Required: Yes

UserPoolClientId

The ID of the Amazon Cognito user pool client.

Type: String

Required: Yes

UserPoolDomain

The domain prefix or fully-qualified domain name of the Amazon Cognito user pool.

Type: String

Required: Yes

AuthenticationRequestExtraParams , AuthenticationRequestExtraParams.entry.N.key (key) , AuthenticationRequestExtraParams.entry.N.value (value)

The query parameters (up to 10) to include in the redirect request to the authorization endpoint.

Type: String to string map

Required: No

OnUnauthenticatedRequest

The behavior if the user is not authenticated. The following are possible values:

- deny - Return an HTTP 401 Unauthorized error.

- allow - Allow the request to be forwarded to the target.
- authenticate - Redirect the request to the IdP authorization endpoint. This is the default value.

Type: String

Valid Values: `deny | allow | authenticate`

Required: No

Scope

The set of user claims to be requested from the IdP. The default is `openid`.

To verify which scope values your IdP supports and how to separate multiple values, see the documentation for your IdP.

Type: String

Required: No

SessionCookieName

The name of the cookie used to maintain session information. The default is AWSELBAuthSessionCookie.

Type: String

Required: No

SessionTimeout

The maximum duration of the authentication session, in seconds. The default is 604800 seconds (7 days).

Type: Long

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

AuthenticateOidcActionConfig

Request parameters when using an identity provider (IdP) that is compliant with OpenID Connect (OIDC) to authenticate users.

Contents

AuthorizationEndpoint

The authorization endpoint of the IdP. This must be a full URL, including the HTTPS protocol, the domain, and the path.

Type: String

Required: Yes

ClientId

The OAuth 2.0 client identifier.

Type: String

Required: Yes

Issuer

The OIDC issuer identifier of the IdP. This must be a full URL, including the HTTPS protocol, the domain, and the path.

Type: String

Required: Yes

TokenEndpoint

The token endpoint of the IdP. This must be a full URL, including the HTTPS protocol, the domain, and the path.

Type: String

Required: Yes

UserInfoEndpoint

The user info endpoint of the IdP. This must be a full URL, including the HTTPS protocol, the domain, and the path.

Type: String

Required: Yes

AuthenticationRequestExtraParams , AuthenticationRequestExtraParams.entry.N.key (key) , AuthenticationRequestExtraParams.entry.N.value (value)

The query parameters (up to 10) to include in the redirect request to the authorization endpoint.

Type: String to string map

Required: No

ClientSecret

The OAuth 2.0 client secret. This parameter is required if you are creating a rule. If you are modifying a rule, you can omit this parameter if you set `UseExistingClientSecret` to true.

Type: String

Required: No

OnUnauthenticatedRequest

The behavior if the user is not authenticated. The following are possible values:

- deny - Return an HTTP 401 Unauthorized error.
- allow - Allow the request to be forwarded to the target.
- authenticate - Redirect the request to the IdP authorization endpoint. This is the default value.

Type: String

Valid Values: `deny | allow | authenticate`

Required: No

Scope

The set of user claims to be requested from the IdP. The default is `openid`.

To verify which scope values your IdP supports and how to separate multiple values, see the documentation for your IdP.

Type: String

Required: No

SessionCookieName

The name of the cookie used to maintain session information. The default is AWSELBAuthSessionCookie.

Type: String

Required: No

SessionTimeout

The maximum duration of the authentication session, in seconds. The default is 604800 seconds (7 days).

Type: Long

Required: No

UseExistingClientSecret

Indicates whether to use the existing client secret when modifying a rule. If you are creating a rule, you can omit this parameter or set it to false.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

AvailabilityZone

Information about an Availability Zone.

Contents

LoadBalancerAddresses.member.N

[Network Load Balancers] If you need static IP addresses for your load balancer, you can specify one Elastic IP address per Availability Zone when you create an internal-facing load balancer. For internal load balancers, you can specify a private IP address from the IPv4 range of the subnet.

Type: Array of LoadBalancerAddress objects

Required: No

OutpostId

[Application Load Balancers on Outposts] The ID of the Outpost.

Type: String

Required: No

SubnetId

The ID of the subnet. You can specify one subnet per Availability Zone.

Type: String

Required: No

ZoneName

The name of the Availability Zone.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Certificate

Information about an SSL server certificate.

Contents

CertificateArn

The Amazon Resource Name (ARN) of the certificate.

Type: String

Required: No

IsDefault

Indicates whether the certificate is the default certificate. Do not set this value when specifying a certificate as an input. This value is not included in the output when describing a listener, but is included when describing listener certificates.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Cipher

Information about a cipher used in a policy.

Contents

Name

The name of the cipher.

Type: String

Required: No

Priority

The priority of the cipher.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

DescribeTrustStoreRevocation

Information about the revocations used by a trust store.

Contents

NumberOfRevokedEntries

The number of revoked certificates.

Type: Long

Required: No

RevocationId

The revocation ID of a revocation file in use.

Type: Long

Required: No

RevocationType

The type of revocation file.

Type: String

Valid Values: CRL

Required: No

TrustStoreArn

The Amazon Resource Name (ARN) of the trust store.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

FixedResponseActionConfig

Information about an action that returns a custom HTTP response.

Contents

StatusCode

The HTTP response code (2XX, 4XX, or 5XX).

Type: String

Pattern: `^(2|4|5)\d\d$`

Required: Yes

ContentType

The content type.

Valid Values: text/plain | text/css | text/html | application/javascript | application/json

Type: String

Length Constraints: Minimum length of 0. Maximum length of 32.

Required: No

MessageBody

The message.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 1024.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

ForwardActionConfig

Information about a forward action.

Contents

TargetGroups.member.N

The target groups. For Network Load Balancers, you can specify a single target group.

Type: Array of TargetGroupTuple objects

Required: No

TargetGroupStickinessConfig

The target group stickiness for the rule.

Type: TargetGroupStickinessConfig object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

HostHeaderConditionConfig

Information about a host header condition.

Contents

Values.member.N

The host names. The maximum size of each name is 128 characters. The comparison is case insensitive. The following wildcard characters are supported: * (matches 0 or more characters) and ? (matches exactly 1 character).

If you specify multiple strings, the condition is satisfied if one of the strings matches the host name.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

HttpHeaderConditionConfig

Information about an HTTP header condition.

There is a set of standard HTTP header fields. You can also define custom HTTP header fields.

Contents

HttpHeaderName

The name of the HTTP header field. The maximum size is 40 characters. The header name is case insensitive. The allowed characters are specified by RFC 7230. Wildcards are not supported.

You can't use an HTTP header condition to specify the host header. Use HostHeaderConditionConfig to specify a host header condition.

Type: String

Required: No

Values.member.N

The strings to compare against the value of the HTTP header. The maximum size of each string is 128 characters. The comparison strings are case insensitive. The following wildcard characters are supported: * (matches 0 or more characters) and ? (matches exactly 1 character).

If the same header appears multiple times in the request, we search them in order until a match is found.

If you specify multiple strings, the condition is satisfied if one of the strings matches the value of the HTTP header. To require that all of the strings are a match, create one condition per string.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

HttpRequestMethodConditionConfig

Information about an HTTP method condition.

HTTP defines a set of request methods, also referred to as HTTP verbs. For more information, see the HTTP Method Registry. You can also define custom HTTP methods.

Contents

Values.member.N

The name of the request method. The maximum size is 40 characters. The allowed characters are A-Z, hyphen (-), and underscore (_). The comparison is case sensitive. Wildcards are not supported; therefore, the method name must be an exact match.

If you specify multiple strings, the condition is satisfied if one of the strings matches the HTTP request method. We recommend that you route GET and HEAD requests in the same way, because the response to a HEAD request may be cached.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Limit

Information about an Elastic Load Balancing resource limit for your AWS account.

For more information, see the following:

- Quotas for your Application Load Balancers
- Quotas for your Network Load Balancers
- Quotas for your Gateway Load Balancers

Contents

Max

The maximum value of the limit.

Type: String

Required: No

Name

The name of the limit. The possible values are:

- application-load-balancers
- condition-values-per-alb-rule
- condition-wildcards-per-alb-rule
- gateway-load-balancers
- gateway-load-balancers-per-vpc
- geneve-target-groups
- listeners-per-application-load-balancer
- listeners-per-network-load-balancer
- network-load-balancers
- rules-per-application-load-balancer
- target-groups
- target-groups-per-action-on-application-load-balancer
- target-groups-per-action-on-network-load-balancer

- target-groups-per-application-load-balancer
- targets-per-application-load-balancer
- targets-per-availability-zone-per-gateway-load-balancer
- targets-per-availability-zone-per-network-load-balancer
- targets-per-network-load-balancer

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Listener

Information about a listener.

Contents

AlpnPolicy.member.N

[TLS listener] The name of the Application-Layer Protocol Negotiation (ALPN) policy.

Type: Array of strings

Required: No

Certificates.member.N

[HTTPS or TLS listener] The default certificate for the listener.

Type: Array of Certificate objects

Required: No

DefaultActions.member.N

The default actions for the listener.

Type: Array of Action objects

Required: No

ListenerArn

The Amazon Resource Name (ARN) of the listener.

Type: String

Required: No

LoadBalancerArn

The Amazon Resource Name (ARN) of the load balancer.

Type: String

Required: No

MutualAuthentication

The mutual authentication configuration information.

Type: MutualAuthenticationAttributes object

Required: No

Port

The port on which the load balancer is listening.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 65535.

Required: No

Protocol

The protocol for connections from clients to the load balancer.

Type: String

Valid Values: `HTTP | HTTPS | TCP | TLS | UDP | TCP_UDP | GENEVE`

Required: No

SslPolicy

[HTTPS or TLS listener] The security policy that defines which protocols and ciphers are supported.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go

- AWS SDK for Java V2
- AWS SDK for Ruby V3

LoadBalancer

Information about a load balancer.

Contents

AvailabilityZones.member.N

The subnets for the load balancer.

Type: Array of AvailabilityZone objects

Required: No

CanonicalHostedZoneId

The ID of the Amazon Route 53 hosted zone associated with the load balancer.

Type: String

Required: No

CreatedTime

The date and time the load balancer was created.

Type: Timestamp

Required: No

CustomerOwnedIpv4Pool

[Application Load Balancers on Outposts] The ID of the customer-owned address pool.

Type: String

Length Constraints: Maximum length of 256.

Pattern: `^(ipv4pool-coip-)[a-zA-Z0-9]+$`

Required: No

DNSName

The public DNS name of the load balancer.

Type: String

Required: No

EnforceSecurityGroupInboundRulesOnPrivateLinkTraffic

Indicates whether to evaluate inbound security group rules for traffic sent to a Network Load Balancer through AWS PrivateLink.

Type: String

Required: No

IpAddressType

The type of IP addresses used by the subnets for your load balancer. The possible values are `ipv4` (for IPv4 addresses) and `dualstack` (for IPv4 and IPv6 addresses).

Type: String

Valid Values: `ipv4 | dualstack`

Required: No

LoadBalancerArn

The Amazon Resource Name (ARN) of the load balancer.

Type: String

Required: No

LoadBalancerName

The name of the load balancer.

Type: String

Required: No

Scheme

The nodes of an Internet-facing load balancer have public IP addresses. The DNS name of an Internet-facing load balancer is publicly resolvable to the public IP addresses of the nodes. Therefore, Internet-facing load balancers can route requests from clients over the internet.

The nodes of an internal load balancer have only private IP addresses. The DNS name of an internal load balancer is publicly resolvable to the private IP addresses of the nodes. Therefore, internal load balancers can route requests only from clients with access to the VPC for the load balancer.

Type: String

Valid Values: `internet-facing | internal`

Required: No

SecurityGroups.member.N

The IDs of the security groups for the load balancer.

Type: Array of strings

Required: No

State

The state of the load balancer.

Type: LoadBalancerState object

Required: No

Type

The type of load balancer.

Type: String

Valid Values: `application | network | gateway`

Required: No

VpcId

The ID of the VPC for the load balancer.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

LoadBalancerAddress

Information about a static IP address for a load balancer.

Contents

AllocationId

[Network Load Balancers] The allocation ID of the Elastic IP address for an internal-facing load balancer.

Type: String

Required: No

IpAddress

The static IP address.

Type: String

Required: No

IPv6Address

[Network Load Balancers] The IPv6 address.

Type: String

Required: No

PrivateIPv4Address

[Network Load Balancers] The private IPv4 address for an internal load balancer.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

LoadBalancerAttribute

Information about a load balancer attribute.

Contents

Key

The name of the attribute.

The following attributes are supported by all load balancers:

- `deletion_protection.enabled` - Indicates whether deletion protection is enabled. The value is `true` or `false`. The default is `false`.
- `load_balancing.cross_zone.enabled` - Indicates whether cross-zone load balancing is enabled. The possible values are `true` and `false`. The default for Network Load Balancers and Gateway Load Balancers is `false`. The default for Application Load Balancers is `true`, and cannot be changed.

The following attributes are supported by both Application Load Balancers and Network Load Balancers:

- `access_logs.s3.enabled` - Indicates whether access logs are enabled. The value is `true` or `false`. The default is `false`.
- `access_logs.s3.bucket` - The name of the S3 bucket for the access logs. This attribute is required if access logs are enabled. The bucket must exist in the same region as the load balancer and have a bucket policy that grants Elastic Load Balancing permissions to write to the bucket.
- `access_logs.s3.prefix` - The prefix for the location in the S3 bucket for the access logs.
- `ipv6.deny_all_igw_traffic` - Blocks internet gateway (IGW) access to the load balancer. It is set to `false` for internet-facing load balancers and `true` for internal load balancers, preventing unintended access to your internal load balancer through an internet gateway.

The following attributes are supported by only Application Load Balancers:

- `idle_timeout.timeout_seconds` - The idle timeout value, in seconds. The valid range is 1-4000 seconds. The default is 60 seconds.
- `client_keep_alive.seconds` - The client keep alive value, in seconds. The valid range is 60-604800 seconds. The default is 3600 seconds.

- `connection_logs.s3.enabled` - Indicates whether connection logs are enabled. The value is `true` or `false`. The default is `false`.
- `connection_logs.s3.bucket` - The name of the S3 bucket for the connection logs. This attribute is required if connection logs are enabled. The bucket must exist in the same region as the load balancer and have a bucket policy that grants Elastic Load Balancing permissions to write to the bucket.
- `connection_logs.s3.prefix` - The prefix for the location in the S3 bucket for the connection logs.
- `routing.http.desync_mitigation_mode` - Determines how the load balancer handles requests that might pose a security risk to your application. The possible values are `monitor`, `defensive`, and `strictest`. The default is `defensive`.
- `routing.http.drop_invalid_header_fields.enabled` - Indicates whether HTTP headers with invalid header fields are removed by the load balancer (`true`) or routed to targets (`false`). The default is `false`.
- `routing.http.preserve_host_header.enabled` - Indicates whether the Application Load Balancer should preserve the `Host` header in the HTTP request and send it to the target without any change. The possible values are `true` and `false`. The default is `false`.
- `routing.http.x_amzn_tls_version_and_cipher_suite.enabled` - Indicates whether the two headers (`x-amzn-tls-version` and `x-amzn-tls-cipher-suite`), which contain information about the negotiated TLS version and cipher suite, are added to the client request before sending it to the target. The `x-amzn-tls-version` header has information about the TLS protocol version negotiated with the client, and the `x-amzn-tls-cipher-suite` header has information about the cipher suite negotiated with the client. Both headers are in OpenSSL format. The possible values for the attribute are `true` and `false`. The default is `false`.
- `routing.http.xff_client_port.enabled` - Indicates whether the `X-Forwarded-For` header should preserve the source port that the client used to connect to the load balancer. The possible values are `true` and `false`. The default is `false`.
- `routing.http.xff_header_processing.mode` - Enables you to modify, preserve, or remove the `X-Forwarded-For` header in the HTTP request before the Application Load Balancer sends the request to the target. The possible values are `append`, `preserve`, and `remove`. The default is `append`.
  - If the value is `append`, the Application Load Balancer adds the client IP address (of the last hop) to the `X-Forwarded-For` header in the HTTP request before it sends it to targets.

- If the value is `preserve` the Application Load Balancer preserves the `X-Forwarded-For` header in the HTTP request, and sends it to targets without any change.
- If the value is `remove`, the Application Load Balancer removes the `X-Forwarded-For` header in the HTTP request before it sends it to targets.

- `routing.http2.enabled` - Indicates whether HTTP/2 is enabled. The possible values are `true` and `false`. The default is `true`. Elastic Load Balancing requires that message header names contain only alphanumeric characters and hyphens.
- `waf.fail_open.enabled` - Indicates whether to allow a WAF-enabled load balancer to route requests to targets if it is unable to forward the request to AWS WAF. The possible values are `true` and `false`. The default is `false`.

The following attributes are supported by only Network Load Balancers:

- `dns_record.client_routing_policy` - Indicates how traffic is distributed among the load balancer Availability Zones. The possible values are `availability_zone_affinity` with 100 percent zonal affinity, `partial_availability_zone_affinity` with 85 percent zonal affinity, and `any_availability_zone` with 0 percent zonal affinity.

Type: String

Length Constraints: Maximum length of 256.

Pattern: `^[a-zA-Z0-9._]+$`

Required: No

Value

The value of the attribute.

Type: String

Length Constraints: Maximum length of 1024.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

LoadBalancerState

Information about the state of the load balancer.

Contents

Code

The state code. The initial state of the load balancer is `provisioning`. After the load balancer is fully set up and ready to route traffic, its state is `active`. If load balancer is routing traffic but does not have the resources it needs to scale, its state is`active_impaired`. If the load balancer could not be set up, its state is `failed`.

Type: String

Valid Values: `active | provisioning | active_impaired | failed`

Required: No

Reason

A description of the state.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Matcher

The codes to use when checking for a successful response from a target. If the protocol version is gRPC, these are gRPC codes. Otherwise, these are HTTP codes.

Contents

GrpcCode

You can specify values between 0 and 99. You can specify multiple values (for example, "0,1") or a range of values (for example, "0-5"). The default value is 12.

Type: String

Required: No

HttpCode

For Application Load Balancers, you can specify values between 200 and 499, with the default value being 200. You can specify multiple values (for example, "200,202") or a range of values (for example, "200-299").

For Network Load Balancers, you can specify values between 200 and 599, with the default value being 200-399. You can specify multiple values (for example, "200,202") or a range of values (for example, "200-299").

For Gateway Load Balancers, this must be "200–399".

Note that when using shorthand syntax, some values such as commas need to be escaped.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go

- AWS SDK for Java V2
- AWS SDK for Ruby V3

MutualAuthenticationAttributes

Information about the mutual authentication attributes of a listener.

Contents

IgnoreClientCertificateExpiry

Indicates whether expired client certificates are ignored.

Type: Boolean

Required: No

Mode

The client certificate handling method. Options are `off`, `passthrough` or `verify`. The default value is `off`.

Type: String

Required: No

TrustStoreArn

The Amazon Resource Name (ARN) of the trust store.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

PathPatternConditionConfig

Information about a path pattern condition.

Contents

Values.member.N

The path patterns to compare against the request URL. The maximum size of each string is 128 characters. The comparison is case sensitive. The following wildcard characters are supported: * (matches 0 or more characters) and ? (matches exactly 1 character).

If you specify multiple strings, the condition is satisfied if one of them matches the request URL. The path pattern is compared only to the path of the URL, not to its query string. To compare against the query string, use QueryStringConditionConfig.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

QueryStringConditionConfig

Information about a query string condition.

The query string component of a URI starts after the first '?' character and is terminated by either a '#' character or the end of the URI. A typical query string contains key/value pairs separated by '&' characters. The allowed characters are specified by RFC 3986. Any character can be percentage encoded.

Contents

Values.member.N

The key/value pairs or values to find in the query string. The maximum size of each string is 128 characters. The comparison is case insensitive. The following wildcard characters are supported: * (matches 0 or more characters) and ? (matches exactly 1 character). To search for a literal '*' or '?' character in a query string, you must escape these characters in `Values` using a '\' character.

If you specify multiple key/value pairs or values, the condition is satisfied if one of them is found in the query string.

Type: Array of QueryStringKeyValuePair objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

QueryStringKeyValuePair

Information about a key/value pair.

Contents

Key

The key. You can omit the key.

Type: String

Required: No

Value

The value.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RedirectActionConfig

Information about a redirect action.

A URI consists of the following components: protocol://hostname:port/path?query. You must modify at least one of the following components to avoid a redirect loop: protocol, hostname, port, or path. Any components that you do not modify retain their original values.

You can reuse URI components using the following reserved keywords:

- #{protocol}
- #{host}
- #{port}
- #{path} (the leading "/" is removed)
- #{query}

For example, you can change the path to "/new/#{path}", the hostname to "example.#{host}", or the query to "#{query}&value=xyz".

Contents

StatusCode

The HTTP redirect code. The redirect is either permanent (HTTP 301) or temporary (HTTP 302).

Type: String

Valid Values: `HTTP_301 | HTTP_302`

Required: Yes

Host

The hostname. This component is not percent-encoded. The hostname can contain #{host}.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

Path

The absolute path, starting with the leading "/". This component is not percent-encoded. The path can contain #{host}, #{path}, and #{port}.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

Port

The port. You can specify a value from 1 to 65535 or #{port}.

Type: String

Required: No

Protocol

The protocol. You can specify HTTP, HTTPS, or #{protocol}. You can redirect HTTP to HTTP, HTTP to HTTPS, and HTTPS to HTTPS. You cannot redirect HTTPS to HTTP.

Type: String

Pattern: `^(HTTPS?|#\{protocol\})$`

Required: No

Query

The query parameters, URL-encoded when necessary, but not percent-encoded. Do not include the leading "?", as it is automatically added. You can specify any of the reserved keywords.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 128.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RevocationContent

Information about a revocation file.

Contents

RevocationType

The type of revocation file.

Type: String

Valid Values: CRL

Required: No

S3Bucket

The Amazon S3 bucket for the revocation file.

Type: String

Required: No

S3Key

The Amazon S3 path for the revocation file.

Type: String

Required: No

S3ObjectVersion

The Amazon S3 object version of the revocation file.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Rule

Information about a rule.

Contents

Actions.member.N

The actions. Each rule must include exactly one of the following types of actions: `forward`, `redirect`, or `fixed-response`, and it must be the last action to be performed.

Type: Array of Action objects

Required: No

Conditions.member.N

The conditions. Each rule can include zero or one of the following conditions: `http-request-method`, `host-header`, `path-pattern`, and `source-ip`, and zero or more of the following conditions: `http-header` and `query-string`.

Type: Array of RuleCondition objects

Required: No

IsDefault

Indicates whether this is the default rule.

Type: Boolean

Required: No

Priority

The priority.

Type: String

Required: No

RuleArn

The Amazon Resource Name (ARN) of the rule.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RuleCondition

Information about a condition for a rule.

Each rule can optionally include up to one of each of the following conditions: `http-request-method`, `host-header`, `path-pattern`, and `source-ip`. Each rule can also optionally include one or more of each of the following conditions: `http-header` and `query-string`. Note that the value for a condition cannot be empty.

For more information, see Quotas for your Application Load Balancers.

Contents

Field

The field in the HTTP request. The following are the possible values:

- `http-header`
- `http-request-method`
- `host-header`
- `path-pattern`
- `query-string`
- `source-ip`

Type: String

Length Constraints: Maximum length of 64.

Required: No

HostHeaderConfig

Information for a host header condition. Specify only when `Field` is `host-header`.

Type: HostHeaderConditionConfig object

Required: No

HttpHeaderConfig

Information for an HTTP header condition. Specify only when `Field` is `http-header`.

Type: HttpHeaderConditionConfig object

Required: No

HttpRequestMethodConfig

Information for an HTTP method condition. Specify only when `Field` is `http-request-method`.

Type: HttpRequestMethodConditionConfig object

Required: No

PathPatternConfig

Information for a path pattern condition. Specify only when `Field` is `path-pattern`.

Type: PathPatternConditionConfig object

Required: No

QueryStringConfig

Information for a query string condition. Specify only when `Field` is `query-string`.

Type: QueryStringConditionConfig object

Required: No

SourceIpConfig

Information for a source IP condition. Specify only when `Field` is `source-ip`.

Type: SourceIpConditionConfig object

Required: No

Values.member.N

The condition value. Specify only when `Field` is `host-header` or `path-pattern`. Alternatively, to specify multiple host names or multiple path patterns, use `HostHeaderConfig` or `PathPatternConfig`.

If `Field` is `host-header` and you are not using `HostHeaderConfig`, you can specify a single host name (for example, my.example.com) in `Values`. A host name is case insensitive, can be up to 128 characters in length, and can contain any of the following characters.

- A-Z, a-z, 0-9
- - .
- * (matches 0 or more characters)
- ? (matches exactly 1 character)

If `Field` is `path-pattern` and you are not using `PathPatternConfig`, you can specify a single path pattern (for example, /img/*) in `Values`. A path pattern is case-sensitive, can be up to 128 characters in length, and can contain any of the following characters.

- A-Z, a-z, 0-9
- _ - . $ / ~ " ' @ : +
- & (using &)
- * (matches 0 or more characters)
- ? (matches exactly 1 character)

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

RulePriorityPair

Information about the priorities for the rules for a listener.

Contents

Priority

The rule priority.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 50000.

Required: No

RuleArn

The Amazon Resource Name (ARN) of the rule.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SourceIpConditionConfig

Information about a source IP condition.

You can use this condition to route based on the IP address of the source that connects to the load balancer. If a client is behind a proxy, this is the IP address of the proxy not the IP address of the client.

Contents

Values.member.N

The source IP addresses, in CIDR format. You can use both IPv4 and IPv6 addresses. Wildcards are not supported.

If you specify multiple addresses, the condition is satisfied if the source IP address of the request matches one of the CIDR blocks. This condition is not satisfied by the addresses in the X-Forwarded-For header. To search for addresses in the X-Forwarded-For header, use HttpHeaderConditionConfig.

The total number of values must be less than, or equal to five.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SslPolicy

Information about a policy used for SSL negotiation.

Contents

Ciphers.member.N

The ciphers.

Type: Array of Cipher objects

Required: No

Name

The name of the policy.

Type: String

Required: No

SslProtocols.member.N

The protocols.

Type: Array of strings

Required: No

SupportedLoadBalancerTypes.member.N

The supported load balancers.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

SubnetMapping

Information about a subnet mapping.

Contents

AllocationId

[Network Load Balancers] The allocation ID of the Elastic IP address for an internet-facing load balancer.

Type: String

Required: No

IPv6Address

[Network Load Balancers] The IPv6 address.

Type: String

Required: No

PrivateIPv4Address

[Network Load Balancers] The private IPv4 address for an internal load balancer.

Type: String

Required: No

SubnetId

The ID of the subnet.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Tag

Information about a tag.

Contents

Key

The key of the tag.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^([\p{L}\p{Z}\p{N}_.:/=+\-@]*)$`

Required: Yes

Value

The value of the tag.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 256.

Pattern: `^([\p{L}\p{Z}\p{N}_.:/=+\-@]*)$`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

TagDescription

The tags associated with a resource.

Contents

ResourceArn

The Amazon Resource Name (ARN) of the resource.

Type: String

Required: No

Tags.member.N

Information about the tags.

Type: Array of Tag objects

Array Members: Minimum number of 1 item.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

TargetDescription

Information about a target.

Contents

Id

The ID of the target. If the target type of the target group is `instance`, specify an instance ID. If the target type is `ip`, specify an IP address. If the target type is `lambda`, specify the ARN of the Lambda function. If the target type is `alb`, specify the ARN of the Application Load Balancer target.

Type: String

Required: Yes

AvailabilityZone

An Availability Zone or `all`. This determines whether the target receives traffic from the load balancer nodes in the specified Availability Zone or from all enabled Availability Zones for the load balancer.

For Application Load Balancer target groups, the specified Availability Zone value is only applicable when cross-zone load balancing is off. Otherwise the parameter is ignored and treated as `all`.

This parameter is not supported if the target type of the target group is `instance` or `alb`.

If the target type is `ip` and the IP address is in a subnet of the VPC for the target group, the Availability Zone is automatically detected and this parameter is optional. If the IP address is outside the VPC, this parameter is required.

For Application Load Balancer target groups with cross-zone load balancing off, if the target type is `ip` and the IP address is outside of the VPC for the target group, this should be an Availability Zone inside the VPC for the target group.

If the target type is `lambda`, this parameter is optional and the only supported value is `all`.

Type: String

Required: No

Port

The port on which the target is listening. If the target group protocol is GENEVE, the supported port is 6081. If the target type is `alb`, the targeted Application Load Balancer must have at least one listener whose port matches the target group port. This parameter is not used if the target is a Lambda function.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 65535.

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

TargetGroup

Information about a target group.

Contents

HealthCheckEnabled

Indicates whether health checks are enabled.

Type: Boolean

Required: No

HealthCheckIntervalSeconds

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

Type: Integer

Valid Range: Minimum value of 5. Maximum value of 300.

Required: No

HealthCheckPath

The destination for health checks on the targets.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

HealthCheckPort

The port to use to connect with the target.

Type: String

Required: No

HealthCheckProtocol

The protocol to use to connect with the target. The GENEVE, TLS, UDP, and TCP_UDP protocols are not supported for health checks.

Type: String

Valid Values: `HTTP | HTTPS | TCP | TLS | UDP | TCP_UDP | GENEVE`

Required: No

HealthCheckTimeoutSeconds

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

Type: Integer

Valid Range: Minimum value of 2. Maximum value of 120.

Required: No

HealthyThresholdCount

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

Type: Integer

Valid Range: Minimum value of 2. Maximum value of 10.

Required: No

IpAddressType

The type of IP address used for this target group. The possible values are `ipv4` and `ipv6`. This is an optional parameter. If not specified, the IP address type defaults to `ipv4`.

Type: String

Valid Values: `ipv4 | ipv6`

Required: No

LoadBalancerArns.member.N

The Amazon Resource Name (ARN) of the load balancer that routes traffic to this target group. You can use each target group with only one load balancer.

Type: Array of strings

Required: No

Matcher

The HTTP or gRPC codes to use when checking for a successful response from a target.

Type: Matcher object

Required: No

Port

The port on which the targets are listening. This parameter is not used if the target is a Lambda function.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 65535.

Required: No

Protocol

The protocol to use for routing traffic to the targets.

Type: String

Valid Values: `HTTP | HTTPS | TCP | TLS | UDP | TCP_UDP | GENEVE`

Required: No

ProtocolVersion

[HTTP/HTTPS protocol] The protocol version. The possible values are `GRPC`, `HTTP1`, and `HTTP2`.

Type: String

Required: No

TargetGroupArn

The Amazon Resource Name (ARN) of the target group.

Type: String

Required: No

TargetGroupName

The name of the target group.

Type: String

Required: No

TargetType

The type of target that you must specify when registering targets with this target group. The possible values are `instance` (register targets by instance ID), `ip` (register targets by IP address), `lambda` (register a single Lambda function as a target), or `alb` (register a single Application Load Balancer as a target).

Type: String

Valid Values: `instance | ip | lambda | alb`

Required: No

UnhealthyThresholdCount

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

Type: Integer

Valid Range: Minimum value of 2. Maximum value of 10.

Required: No

VpcId

The ID of the VPC for the targets.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go

- AWS SDK for Java V2
- AWS SDK for Ruby V3

TargetGroupAttribute

Information about a target group attribute.

Contents

Key

The name of the attribute.

The following attributes are supported by all load balancers:

- `deregistration_delay.timeout_seconds` - The amount of time, in seconds, for Elastic Load Balancing to wait before changing the state of a deregistering target from `draining` to `unused`. The range is 0-3600 seconds. The default value is 300 seconds. If the target is a Lambda function, this attribute is not supported.
- `stickiness.enabled` - Indicates whether target stickiness is enabled. The value is `true` or `false`. The default is `false`.
- `stickiness.type` - Indicates the type of stickiness. The possible values are:
  - `lb_cookie` and `app_cookie` for Application Load Balancers.
  - `source_ip` for Network Load Balancers.
  - `source_ip_dest_ip` and `source_ip_dest_ip_proto` for Gateway Load Balancers.

The following attributes are supported by Application Load Balancers and Network Load Balancers:

- `load_balancing.cross_zone.enabled` - Indicates whether cross zone load balancing is enabled. The value is `true`, `false` or `use_load_balancer_configuration`. The default is `use_load_balancer_configuration`.
- `target_group_health.dns_failover.minimum_healthy_targets.count` - The minimum number of targets that must be healthy. If the number of healthy targets is below this value, mark the zone as unhealthy in DNS, so that traffic is routed only to healthy zones. The possible values are `off` or an integer from 1 to the maximum number of targets. The default is `off`.
- `target_group_health.dns_failover.minimum_healthy_targets.percentage` - The minimum percentage of targets that must be healthy. If the percentage of healthy targets is below this value, mark the zone as unhealthy in DNS, so that traffic is routed only to healthy zones. The possible values are `off` or an integer from 1 to 100. The default is `off`.

- `target_group_health.unhealthy_state_routing.minimum_healthy_targets.count` - The minimum number of targets that must be healthy. If the number of healthy targets is below this value, send traffic to all targets, including unhealthy targets. The possible values are 1 to the maximum number of targets. The default is 1.
- `target_group_health.unhealthy_state_routing.minimum_healthy_targets.percenta` - The minimum percentage of targets that must be healthy. If the percentage of healthy targets is below this value, send traffic to all targets, including unhealthy targets. The possible values are `off` or an integer from 1 to 100. The default is `off`.

The following attributes are supported only if the load balancer is an Application Load Balancer and the target is an instance or an IP address:

- `load_balancing.algorithm.type` - The load balancing algorithm determines how the load balancer selects targets when routing requests. The value is `round_robin`, `least_outstanding_requests`, or `weighted_random`. The default is `round_robin`.
- `load_balancing.algorithm.anomaly_mitigation` - Only available when `load_balancing.algorithm.type` is `weighted_random`. Indicates whether anomaly mitigation is enabled. The value is on or `off`. The default is `off`.
- `slow_start.duration_seconds` - The time period, in seconds, during which a newly registered target receives an increasing share of the traffic to the target group. After this time period ends, the target receives its full share of traffic. The range is 30-900 seconds (15 minutes). The default is 0 seconds (disabled).
- `stickiness.app_cookie.cookie_name` - Indicates the name of the application-based cookie. Names that start with the following prefixes are not allowed: `AWSALB`, `AWSALBAPP`, and `AWSALBTG`; they're reserved for use by the load balancer.
- `stickiness.app_cookie.duration_seconds` - The time period, in seconds, during which requests from a client should be routed to the same target. After this time period expires, the application-based cookie is considered stale. The range is 1 second to 1 week (604800 seconds). The default value is 1 day (86400 seconds).
- `stickiness.lb_cookie.duration_seconds` - The time period, in seconds, during which requests from a client should be routed to the same target. After this time period expires, the load balancer-generated cookie is considered stale. The range is 1 second to 1 week (604800 seconds). The default value is 1 day (86400 seconds).

The following attribute is supported only if the load balancer is an Application Load Balancer and the target is a Lambda function:

- `lambda.multi_value_headers.enabled` - Indicates whether the request and response headers that are exchanged between the load balancer and the Lambda function include arrays of values or strings. The value is `true` or `false`. The default is `false`. If the value is `false` and the request contains a duplicate header field name or query parameter key, the load balancer uses the last value sent by the client.

The following attributes are supported only by Network Load Balancers:

- `deregistration_delay.connection_termination.enabled` - Indicates whether the load balancer terminates connections at the end of the deregistration timeout. The value is `true` or `false`. For new UDP/TCP_UDP target groups the default is `true`. Otherwise, the default is `false`.
- `preserve_client_ip.enabled` - Indicates whether client IP preservation is enabled. The value is `true` or `false`. The default is disabled if the target group type is IP address and the target group protocol is TCP or TLS. Otherwise, the default is enabled. Client IP preservation cannot be disabled for UDP and TCP_UDP target groups.
- `proxy_protocol_v2.enabled` - Indicates whether Proxy Protocol version 2 is enabled. The value is `true` or `false`. The default is `false`.
- `target_health_state.unhealthy.connection_termination.enabled` - Indicates whether the load balancer terminates connections to unhealthy targets. The value is `true` or `false`. The default is `true`.
- `target_health_state.unhealthy.draining_interval_seconds` - The amount of time for Elastic Load Balancing to wait before changing the state of an unhealthy target from `unhealthy.draining` to `unhealthy`. The range is 0-360000 seconds. The default value is 0 seconds.

  Note: This attribute can only be configured when `target_health_state.unhealthy.connection_termination.enabled` is `false`.

The following attributes are supported only by Gateway Load Balancers:

- `target_failover.on_deregistration` - Indicates how the Gateway Load Balancer handles existing flows when a target is deregistered. The possible values are `rebalance` and `no_rebalance`. The default is `no_rebalance`. The two attributes (`target_failover.on_deregistration` and `target_failover.on_unhealthy`) can't be set independently. The value you set for both attributes must be the same.
- `target_failover.on_unhealthy` - Indicates how the Gateway Load Balancer handles existing flows when a target is unhealthy. The possible values are

`rebalance` and `no_rebalance`. The default is `no_rebalance`. The two attributes (`target_failover.on_deregistration` and `target_failover.on_unhealthy`) cannot be set independently. The value you set for both attributes must be the same.

Type: String

Length Constraints: Maximum length of 256.

Pattern: `^[a-zA-Z0-9._]+$`

Required: No

Value

The value of the attribute.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

TargetGroupStickinessConfig

Information about the target group stickiness for a rule.

Contents

DurationSeconds

The time period, in seconds, during which requests from a client should be routed to the same target group. The range is 1-604800 seconds (7 days).

Type: Integer

Required: No

Enabled

Indicates whether target group stickiness is enabled.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

TargetGroupTuple

Information about how traffic will be distributed between multiple target groups in a forward rule.

Contents

TargetGroupArn

The Amazon Resource Name (ARN) of the target group.

Type: String

Required: No

Weight

The weight. The range is 0 to 999.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

TargetHealth

Information about the current health of a target.

Contents

Description

A description of the target health that provides additional details. If the state is `healthy`, a description is not provided.

Type: String

Required: No

Reason

The reason code.

If the target state is `healthy`, a reason code is not provided.

If the target state is `initial`, the reason code can be one of the following values:

- `Elb.RegistrationInProgress` - The target is in the process of being registered with the load balancer.
- `Elb.InitialHealthChecking` - The load balancer is still sending the target the minimum number of health checks required to determine its health status.

If the target state is `unhealthy`, the reason code can be one of the following values:

- `Target.ResponseCodeMismatch` - The health checks did not return an expected HTTP code. Applies only to Application Load Balancers and Gateway Load Balancers.
- `Target.Timeout` - The health check requests timed out. Applies only to Application Load Balancers and Gateway Load Balancers.
- `Target.FailedHealthChecks` - The load balancer received an error while establishing a connection to the target or the target response was malformed.
- `Elb.InternalError` - The health checks failed due to an internal error. Applies only to Application Load Balancers.

If the target state is `unused`, the reason code can be one of the following values:

- `Target.NotRegistered` - The target is not registered with the target group.

- `Target.NotInUse` - The target group is not used by any load balancer or the target is in an Availability Zone that is not enabled for its load balancer.
- `Target.InvalidState` - The target is in the stopped or terminated state.
- `Target.IpUnusable` - The target IP address is reserved for use by a load balancer.

If the target state is `draining`, the reason code can be the following value:

- `Target.DeregistrationInProgress` - The target is in the process of being deregistered and the deregistration delay period has not expired.

If the target state is `unavailable`, the reason code can be the following value:

- `Target.HealthCheckDisabled` - Health checks are disabled for the target group. Applies only to Application Load Balancers.
- `Elb.InternalError` - Target health is unavailable due to an internal error. Applies only to Network Load Balancers.

Type: String

Valid Values: `Elb.RegistrationInProgress | Elb.InitialHealthChecking | Target.ResponseCodeMismatch | Target.Timeout | Target.FailedHealthChecks | Target.NotRegistered | Target.NotInUse | Target.DeregistrationInProgress | Target.InvalidState | Target.IpUnusable | Target.HealthCheckDisabled | Elb.InternalError`

Required: No

State

The state of the target.

Type: String

Valid Values: `initial | healthy | unhealthy | unused | draining | unavailable`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

TargetHealthDescription

Information about the health of a target.

Contents

AnomalyDetection

The anomaly detection result for the target.

If no anomalies were detected, the result is `normal`.

If anomalies were detected, the result is `anomalous`.

Type: AnomalyDetection object

Required: No

HealthCheckPort

The port to use to connect with the target.

Type: String

Required: No

Target

The description of the target.

Type: TargetDescription object

Required: No

TargetHealth

The health information for the target.

Type: TargetHealth object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

TrustStore

Information about a trust store.

Contents

Name

The name of the trust store.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 32.

Pattern: `^([a-zA-Z0-9]+-)*[a-zA-Z0-9]+$`

Required: No

NumberOfCaCertificates

The number of ca certificates in the trust store.

Type: Integer

Required: No

Status

The current status of the trust store.

Type: String

Valid Values: `ACTIVE | CREATING`

Required: No

TotalRevokedEntries

The number of revoked certificates in the trust store.

Type: Long

Required: No

TrustStoreArn

The Amazon Resource Name (ARN) of the trust store.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

TrustStoreAssociation

Information about the resources a trust store is associated with.

Contents

ResourceArn

The Amazon Resource Name (ARN) of the resource.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

TrustStoreRevocation

Information about a revocation file in use by a trust store.

Contents

NumberOfRevokedEntries

The number of revoked certificates.

Type: Long

Required: No

RevocationId

The revocation ID of the revocation file.

Type: Long

Required: No

RevocationType

The type of revocation file.

Type: String

Valid Values: CRL

Required: No

TrustStoreArn

The Amazon Resource Name (ARN) of the trust store.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java V2
- AWS SDK for Ruby V3

Common Parameters

The following list contains the parameters that all actions use for signing Signature Version 4 requests with a query string. Any action-specific parameters are listed in the topic for that action. For more information about Signature Version 4, see Signing AWS API requests in the *IAM User Guide*.

Action

The action to be performed.

Type: string

Required: Yes

Version

The API version that the request is written for, expressed in the format YYYY-MM-DD.

Type: string

Required: Yes

X-Amz-Algorithm

The hash algorithm that you used to create the request signature.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Valid Values: `AWS4-HMAC-SHA256`

Required: Conditional

X-Amz-Credential

The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4_request"). The value is expressed in the following format: *access_key*/*YYYYMMDD*/*region*/*service*/aws4_request.

For more information, see Create a signed AWS API request in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-Date

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'T'HHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: `20120325T120000Z`.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see Elements of an AWS API request signature in the *IAM User Guide*.

Type: string

Required: Conditional

X-Amz-Security-Token

The temporary security token that was obtained through a call to AWS Security Token Service (AWS STS). For a list of services that support temporary security credentials from AWS STS, see AWS services that work with IAM in the *IAM User Guide*.

Condition: If you're using temporary security credentials from AWS STS, you must include the security token.

Type: string

Required: Conditional

X-Amz-Signature

Specifies the hex-encoded signature that was calculated from the string to sign and the derived signing key.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-SignedHeaders

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see Create a signed AWS API request in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

Common Errors

This section lists the errors common to the API actions of all AWS services. For errors specific to an API action for this service, see the topic for that API action.

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 400

IncompleteSignature

The request signature does not conform to AWS standards.

HTTP Status Code: 400

InternalFailure

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

InvalidAction

The action or operation requested is invalid. Verify that the action is typed correctly.

HTTP Status Code: 400

InvalidClientTokenId

The X.509 certificate or AWS access key ID provided does not exist in our records.

HTTP Status Code: 403

InvalidParameterCombination

Parameters that must not be used together were used together.

HTTP Status Code: 400

InvalidParameterValue

An invalid or out-of-range value was supplied for the input parameter.

HTTP Status Code: 400

InvalidQueryParameter

The AWS query string is malformed or does not adhere to AWS standards.

HTTP Status Code: 400

MalformedQueryString

The query string contains a syntax error.

HTTP Status Code: 404

MissingAction

The request is missing an action or a required parameter.

HTTP Status Code: 400

MissingAuthenticationToken

The request must contain either a valid (registered) AWS access key ID or X.509 certificate.

HTTP Status Code: 403

MissingParameter

A required parameter for the specified action is not supplied.

HTTP Status Code: 400

NotAuthorized

You do not have permission to perform this action.

HTTP Status Code: 400

OptInRequired

The AWS access key ID needs a subscription for the service.

HTTP Status Code: 403

RequestExpired

The request reached the service more than 15 minutes after the date stamp on the request or more than 15 minutes after the request expiration date (such as for pre-signed URLs), or the date stamp on the request is more than 15 minutes in the future.

HTTP Status Code: 400

ServiceUnavailable

The request has failed due to a temporary failure of the server.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

ValidationError

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400