Alibaba Cloud
Anti-DDoS Pro

New Anti-DDoS Pro Service

Issue: 20190904

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Generic conventions

Table -1: Style conventions

Style	Description	Example
⛔	This warning information indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	⛔ Danger: Resetting will result in the loss of user configuration data.
⚠	This warning information indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	⚠ Warning: Restarting will cause business interruption. About 10 minutes are required to restore business.
📋	This indicates warning informatio n, supplementary instructions, and other content that the user must understand.	ⓘ Notice: Take the necessary precautions to save exported data containing sensitive information.
	This indicates supplemental instructions, best practices, tips, and other content that is good to know for the user.	📋 Note: You can use Ctrl + A to select all files.
>	Multi-level menu cascade.	Settings > Network > Set network type
Bold	It is used for buttons, menus , page names, and other UI elements.	Click OK.
`Courier font`	It is used for commands.	Run the `cd / d C :/ windows` command to enter the Windows system folder.
Italics	It is used for parameters and variables.	`bae log list --instanceid` *Instance_ID*
[] or [a|b]	It indicates that it is a optional value, and only one item can be selected.	`ipconfig` *[-all|-t]*

Style	Description	Example
{} or {a|b}	It indicates that it is a required value, and only one item can be selected.	`swich` *{stand | slave}*

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1 Product Introduction

1.1 What is Anti-DDoS Pro

Anti-DDoS Pro provides BGP bandwidth resources to help you mitigate massive DDoS attacks peaking at 1 Tbit/s. Compared with older versions, Anti-DDoS Pro currently supports more reliable networks with less latency, enabling quicker disaster recovery.

Anti-DDoS Pro provides the following benefits:

- Maximum BGP bandwidth resources in mainland China. Supports mitigating 1.5 Tbit/s DDoS attacks.
- Top-quality bandwidth resources covering eight major ISP networks in mainland China, including China Telecom, China Unicom, China Mobile, and CERNET.

Only one IP address is needed to quickly access different ISP networks in mainland China.

Differences between older and current versions of Anti-DDoS Pro

	Older version (China Telecom , China Unicom, and China Mobile networks)	Older version (BGP-line)	Current version
ISP networks	Only supports China Telecom, China Unicom, and China Mobile networks.	Supports multiple small and medium -sized ISPs' networks in addition to China Telecom, China Unicom, and China Mobile networks.	Supports multiple small and medium -sized ISPs' networks in addition to China Telecom, China Unicom, and China Mobile networks.

	Older version (China Telecom, China Unicom, and China Mobile networks)	Older version (BGP-line)	Current version
Network latency	Average latency of 30 ms in mainland Chinese regions. Cross-network access may occur when using networks provided by small-sized ISPs.	Average latency of 20 ms in mainland Chinese regions. No cross-network access is needed.	Average latency of 20 ms in mainland Chinese regions. No cross-network access is needed.
Dedicated line	Not supported. Traffic is forwarded back to the origin server through public networks with latency.	If the origin server is deployed on Alibaba Cloud services, traffic is forwarded back to the origin server through dedicated lines with negligible latency. Otherwise, traffic is forwarded back to the origin server through public networks.	If the origin server is deployed on Alibaba Cloud services, traffic is forwarded back to the origin server through dedicated lines with negligible latency. Otherwise, traffic is forwarded back to the origin server through public networks.
Disaster recovery	When a server fault occurs, automatic scheduling of layer 4 traffic is not supported. Due to DNS resolution limits, automatic scheduling of layer 7 traffic cannot take effect immediately.	Supports automatic scheduling of all traffic based on BGP routing. The switchover time can be within several seconds.	Supports automatic scheduling of all traffic based on BGP routing. The switchover time can be within several seconds.

	Older version (China Telecom, China Unicom, and China Mobile networks)	Older version (BGP-line)	Current version
IP addresses	Needs more than two IP addresses, which require more configuration workload.	Needs only one IP address.	Needs only one IP address.
Maximum protection capability	Supports mitigating up to 1 Tbit/s DDoS attack based on China Telecom or China Unicom networks.	Supports mitigating up to 100 Gbit/s DDoS attacks.	Supports mitigating up to 1.5 Tbit/s DDoS attacks.
Layer 4 protection capability	Supports mitigating flood attacks such as SYN floods, ACK floods, and ICMP floods. Filters out abnormal requests, empty requests, and requests from zombies.	The same.	The same.
Layer 7 protection capability	Supports mitigating HTTP flood attacks.	Supports mitigating HTTP flood attacks.	Supports mitigating HTTP flood attacks.

Scenarios

We recommend that you use Anti-DDoS Pro if you have the following needs:

- Reliable networking that supports minimal latency, quick disaster recovery, and multiple ISP networks.
- Basic protection that offers 20 Gbit/s or more BGP bandwidth.
- Capability to mitigate DDoS attacks peaking at more than 300 Gbit/s.

2 Pricing

2.1 Billing methods

Anti-DDoS provides BGP bandwidth to help you mitigate 300+ Gbit/s DDoS attacks.

We recommend that you use Anti-DDoS Pro to minimize latency and safeguard the security of your business.

For more information about Anti-DDoS Pro, see #unique_7.

Basic protection (monthly subscription)

Protection capability (peak attack bandwidth)	Network	Price
30 Gbit/s	Eight BGP-line	USD 3,220 per month
60 Gbit/s	Eight BGP-line	USD 7,250 per month
100 Gbit/s	Eight BGP-line	Special offer: USD 50,880 per year
300 Gbit/s	Eight BGP-line	Special offer: USD 81,840 per year
400 Gbit/s	Eight BGP-line	Special offer: USD 149,880 per year
500 Gbit/s	Eight BGP-line	Special offer: USD 581,040 per year
600 Gbit/s	Eight BGP-line	Special offer: USD 691,560 per year
700 Gbit/s	Eight BGP-line	Special offer: USD 789,360 per year
800 Gbit/s	Eight BGP-line	Special offer: USD 884,160 per year
900 Gbit/s	Eight BGP-line	Special offer: USD 978,840 per year
1 Tbit/s	Eight BGP-line	Special offer: USD 1,073,640 per year

Flexible protection (Pay-As-You-Go daily plan)

Anti-DDoS Pro charges additional fees for flexible protection on a daily basis. The fee is determined by the difference between the peak attack bandwidth and the basic bandwidth.

Note:

If you set the burstable bandwidth and basic bandwidth to the same value, no additional fees will be charged and your Anti-DDoS Pro instance provides no flexible protection.

Assume that you have an Anti-DDoS Pro instance whose basic bandwidth is 30 Gbit/s and burstable bandwidth is 100 Gbit/s. On the same day, the instance experienced two DDoS attacks, whose maximum bandwidth reached 80 Gbit/s and 40 Gbit/s respectively. In above example, the peak attack bandwidth is 80 Gbit/s. The difference between the peak attack bandwidth and the basic bandwidth is 50 Gbit/s. According to the billing table below, Anti-DDoS Pro charges RMB 6,400 for flexible protection. The fee will be automatically generated in the morning of the following day.

Notes:

- No additional fee is charged if the peak attack bandwidth does not exceed the basic bandwidth.
- No additional fee is charged if the peak attack bandwidth exceeds the burstable bandwidth. This means if the Anti-DDoS Pro instance enters the black hole status, no additional fee is charged.
- The additional fee for the current day is usually generated between 8 am to 9 am the next day.

Bandwidth difference	Fees
0 Gbit/s < Bandwidth difference ⩽ 5 Gbit/s	USD 125 per day
5 Gbit/s < Bandwidth difference ⩽ 10 Gbit/s	USD 186 per day
10 Gbit/s < Bandwidth difference ⩽ 20 Gbit/s	USD 340 per day
20 Gbit/s < Bandwidth difference ⩽ 30 Gbit/s	USD 588 per day

Bandwidth difference	Fees
30 Gbit/s < Bandwidth difference ⩽ 40 Gbit/s	USD 756 per day
40 Gbit/s < Bandwidth difference ⩽ 50 Gbit/s	USD 1,000 per day
50 Gbit/s < Bandwidth difference ⩽ 60 Gbit/s	USD 1,210 per day
60 Gbit/s < Bandwidth difference ⩽ 70 Gbit/s	USD 1,430 per day
70 Gbit/s < Bandwidth difference ⩽ 80 Gbit/s	USD 1,650 per day
80 Gbit/s < Bandwidth difference ⩽ 100 Gbit/s	USD 1,830 per day
100 Gbit/s < Bandwidth difference ⩽ 150 Gbit/s	USD 2,260 per day
150 Gbit/s < Bandwidth difference ⩽ 200 Gbit/s	USD 3,350 per day
200 Gbit/s < Bandwidth difference ⩽ 300 Gbit/s	USD 4,340 per day
300 Gbit/s < Bandwidth difference ⩽ 400 Gbit/s	USD 6,200 per day
400 Gbit/s < Bandwidth difference ⩽ 500 Gbit/s	USD 7,740 per day
500 Gbit/s < Bandwidth difference ⩽ 600 Gbit/s	USD 9,290 per day
600 Gbit/s < Bandwidth difference ⩽ 700 Gbit/s	USD 10,840 per day
700 Gbit/s < Bandwidth difference ⩽ 800 Gbit/s	USD 12,390 per day
800 Gbit/s < Bandwidth difference ⩽ 900 Gbit/s	USD 13,930 per day
900 Gbit/s < Bandwidth difference ⩽ 1, 000 Gbit/s	USD 15,480 per day
1,000 Gbit/s < Bandwidth difference ⩽ 1, 100 Gbit/s	USD 17,030 per day

Bandwidth difference	Fees
1,100 Gbit/s < Bandwidth difference ≤ 1,200 Gbit/s	USD 18,580 per day
1,200 Gbit/s < Bandwidth difference ≤ 1,300 Gbit/s	USD 20,130 per day
1,300 Gbit/s < Bandwidth difference ≤ 1,400 Gbit/s	USD 21,670 per day
1,400 Gbit/s < Bandwidth difference ≤ 1,500 Gbit/s	USD 23,220 per day

2.2 Protection packages

The new Anti-DDoS Pro provides two protection packages: standard and enhanced. The enhanced package includes all features of the standard package and provides the following exclusive features: static page caching, non-standard ports support, and geo-blocking. You can select the protection package based on your business needs.

When you purchase Anti-DDoS Pro instances, the standard package is selected by default. You can choose the enhanced package for advanced DDoS protection capabilities. For each instance, Anti-DDoS Pro charges additional RMB 8,000 per month for the enhanced package.

If you have already purchased Anti-DDoS Pro instances of the standard package, you can #unique_9.

Note:

After you purchased the enhanced package or upgraded your instance, you need to modify domain configurations to enable the enhanced capabilities.

Comparison of the standard and enhanced package

The enhanced package offers advanced protection capabilities and supports non-standard ports.

Category	Feature	Description	Standard package	Enhanced package
Protection algorithm	Protection against DDoS attacks	Supports protection against common DDoS attacks such as malformed packet attacks and flood attacks.	✓	✓
	Protection against resource exhaustion attacks	Supports protection against common HTTP flood attacks, such as HTTP GET floods and HTTP POST floods. For more information, see #unique_10.	✓	✓
	Intelligent protection	· Supports intelligent protection against application layer floods and effectively mitigates HTTP flood attacks. · Supports intelligent protection against transport layer floods and effectively mitigates TCP flood attacks. For more information, see #unique_11.	✓	✓

Category	Feature	Description	Standard package	Enhanced package
Protection rule	Blacklist and whitelist	For each protected domain, the blacklist and whitelist can each contain a maximum of 200 IP addresses or CIDR blocks. For more information, see #unique_12.	✓	✓
	Accurate access control	Supports fine-grained access control based on HTTP fields. For more information, see #unique_13.	For each protected domain, a maximum of five rules can be configured based on the following fields: IP, URL, Referer, and User-Agent.	For each protected domain, a maximum of 10 rules can be configured.
	Geo-blocking	Supports blocking traffic based on geographical locations. For more information, see #unique_14.	✗	✓
Connection method	Standard HTTP ports (80, 8080) and HTTPS ports (443, 8443).	Supports DDoS protection based on standard HTTP ports (80, 8080) and HTTPS ports (443, 8443).	✓	✓

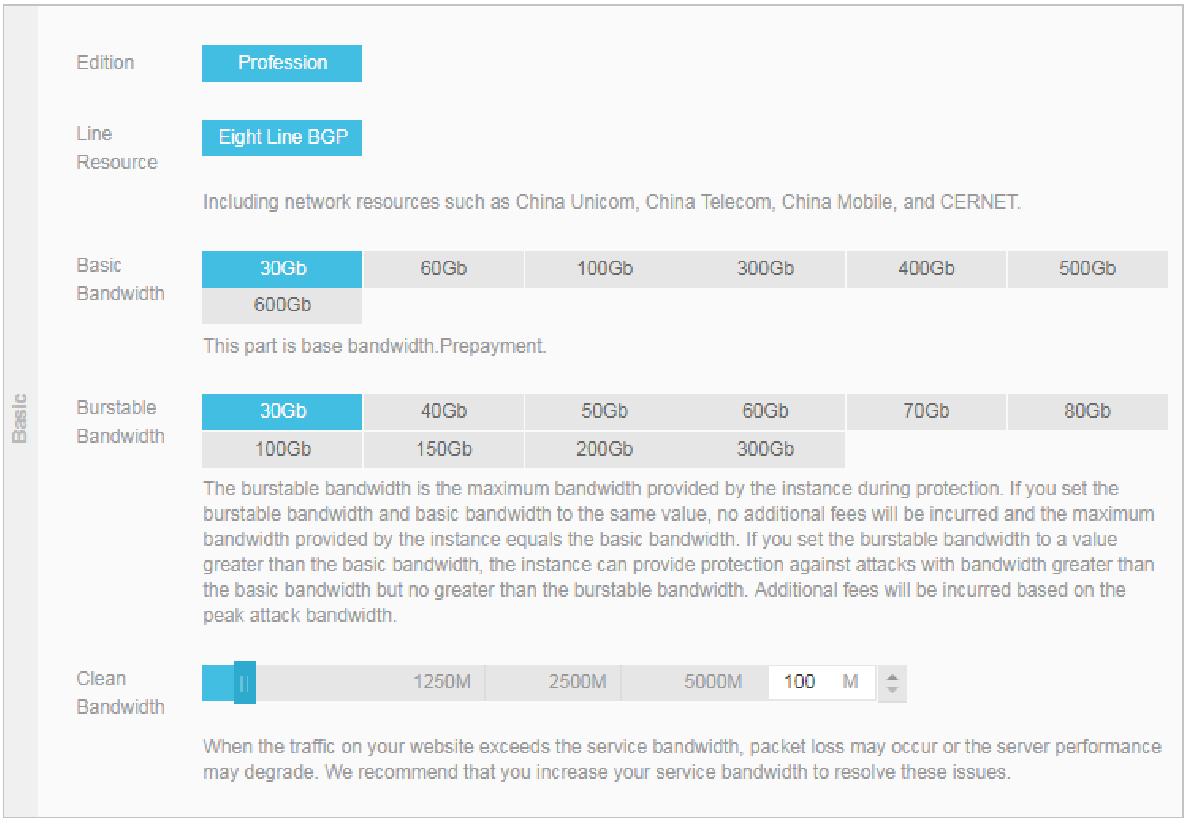
Category	Feature	Description	Standard package	Enhanced package
	Non-standard HTTP and HTTPS ports.	Supports DDoS protection based on non-standard HTTP and HTTPS ports. Note: For each instance, the associated domains can use a maximum of 10 ports.	✗	✓
Other	Static page caching	Supports static page caching to reduce page loading time. Note: Currently, static page caching is in preview stage. For each protected domain, a maximum of three rules can be configured. For more information, see #unique_15.	✗	✓

2.3 Buy Anti-DDoS Pro instances

To buy an Anti-DDoS Pro instance, perform the following steps:

Procedure

1. Open the Anti-DDoS Pro buy page.



Basic

Edition: Profession

Line Resource: Eight Line BGP

Including network resources such as China Unicom, China Telecom, China Mobile, and CERNET.

Basic Bandwidth: 30Gb | 60Gb | 100Gb | 300Gb | 400Gb | 500Gb | 600Gb

This part is base bandwidth.Prepayment.

Burstable Bandwidth: 30Gb | 40Gb | 50Gb | 60Gb | 70Gb | 80Gb | 100Gb | 150Gb | 200Gb | 300Gb

The burstable bandwidth is the maximum bandwidth provided by the instance during protection. If you set the burstable bandwidth and basic bandwidth to the same value, no additional fees will be incurred and the maximum bandwidth provided by the instance equals the basic bandwidth. If you set the burstable bandwidth to a value greater than the basic bandwidth, the instance can provide protection against attacks with bandwidth greater than the basic bandwidth but no greater than the burstable bandwidth. Additional fees will be incurred based on the peak attack bandwidth.

Clean Bandwidth: 1250M | 2500M | 5000M | 100 M

When the traffic on your website exceeds the service bandwidth, packet loss may occur or the server performance may degrade. We recommend that you increase your service bandwidth to resolve these issues.

2. Select the Basic Bandwidth, Burstable Bandwidth, Ports, and Service Bandwidth based on your needs.

   - Basic Bandwidth: The minimum bandwidth provided by the Anti-DDoS Pro instance during protection. Your subscription fee is calculated based on the basic bandwidth and subscription duration.
   - Burstable Bandwidth: The maximum bandwidth provided by the Anti-DDoS Pro instance during protection. When the attack bandwidth exceeds the basic bandwidth, the burstable bandwidth is consumed to defend against the attack. Additional fees will be charged based on the difference between the peak attack bandwidth and basic bandwidth.

     Note:
     If you do not want to consume the burstable bandwidth, you can set the burstable bandwidth and basic bandwidth to the same value. No additional fees

will be charged and the maximum bandwidth provided by the Anti-DDoS Pro instance equals the basic bandwidth.

- Ports: The maximum number of forwarding ports the Anti-DDoS Pro instance can use during port forwarding.
- Service Bandwidth: The maximum bandwidth provided by the Anti-DDoS Pro instance for normal requests when no attack is in progress.

3. Select the Duration and Quantity, and click Buy Now to make your payment.

Result

For more information about the billing methods, see Billing methods.

2.4 Upgrade Anti-DDoS Pro instance configurations

If your current Anti-DDoS Pro instance cannot meet your needs, you can always upgrade its configurations to increase the basic bandwidth, domains, ports, or service bandwidth in the Anti-DDoS Pro console.

Context

Currently, Anti-DDoS Pro allows you to increase the basic bandwidth, domains, ports , and service bandwidth during the upgrade. You need to pay additional fees for the increased capabilities. The new configurations immediately take effect after you make the payment.

Note:
You cannot decrease the basic bandwidth, domains, ports, or service bandwidth after the upgrade.

The price for the upgrades is calculated as follows:

- Domains: For each new domain, Anti-DDoS Pro charges USD 46.88 per month. This fee is calculated based on your remaining subscription time.

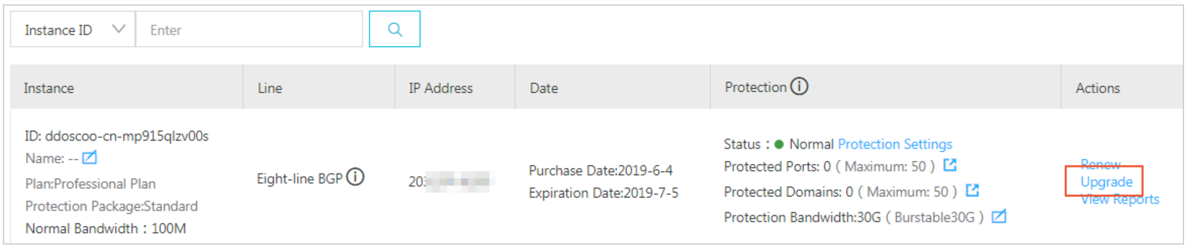
  Note:
  If your Anti-DDoS Pro instance is associated with 100 domains, Anti-DDoS Pro charges USD 35.16 per month for each domain over the 100 threshold.
- Ports: For each new port, Anti-DDoS Pro charges USD 7.81 per month. This fee is calculated based on your remaining subscription time.

- Service Bandwidth: For each Mbit/s of bandwidth, Anti-DDoS Pro charges additional USD 15.63 per month. This fee is calculated based on your remaining subscription time.

> Note:
> Anti-DDoS Pro offers different prices for different bandwidth usage. If your service bandwidth ranges from 100 Mbit/s to 600 Mbit/s, Anti-DDoS Pro charges USD 15.63 per month for each Mbit/s of bandwidth. If your service bandwidth is greater than 600 Mbit/s, Anti-DDoS Pro charges USD 11.72 per month for each Mbit/s of bandwidth over the 600 threshold.

Procedure

1. Log on to the Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Management > Instances, select an Anti-DDoS Pro instance, and click Upgrade.



Instance	Line	IP Address	Date	Protection ⓘ	Actions
ID: ddoscoo-cn-mp915qlzv00s Name: -- Plan:Professional Plan Protection Package:Standard Normal Bandwidth : 100M	Eight-line BGP ⓘ	20[redacted]	Purchase Date:2019-6-4 Expiration Date:2019-7-5	Status : ● Normal Protection Settings Protected Ports: 0 (Maximum: 50) Protected Domains: 0 (Maximum: 50) Protection Bandwidth:30G (Burstable30G)	Renew Upgrade View Reports

3. On the Configuration Upgrade page, specify the basic bandwidth, domains, ports, and service bandwidth.
4. Make your payment and the new configurations take effect immediately.

3 Quick Start

3.1 Set up Anti-DDoS Pro using domains

3.1.1 Overview

This topic describes how to set up Anti-DDoS Pro by using domains to enable DDoS protection and HTTP flood protection for your website.

To set up Anti-DDoS Pro using domains, use the following steps:

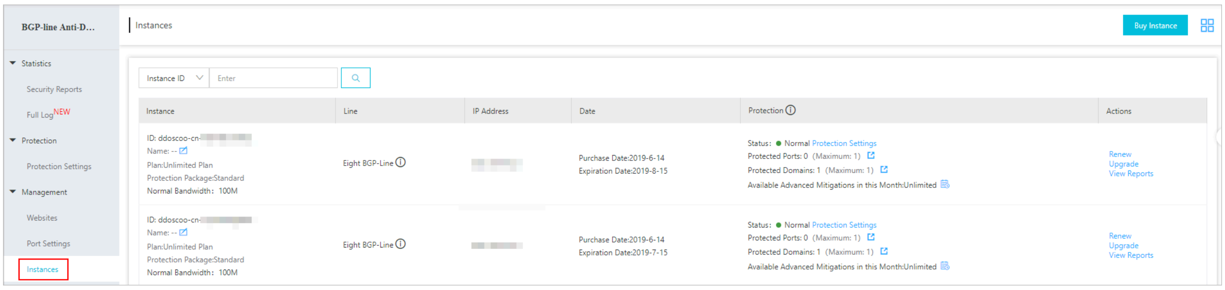
Task	Description
#unique_22	In the Anti-DDoS Pro console, add your website to associate its domain with an Anti-DDoS Pro instance, and configure traffic forwarding.
#unique_23	Modify the DNS records of your domain to forward incoming traffic to your site to the Anti-DDoS Pro instance that is associated with your domain. After DNS records are modified, all traffic to your protected domain is forwarded to Anti-DDoS Pro first. Anti -DDoS Pro filters out malicious traffic and forwards traffic back to the origin server.
#unique_24	After you set up an Anti-DDoS Pro instance to protect your service, Anti-DDoS Smart Defense is enabled by default. You can modify the following DDoS protection policies to meet your changing needs: scrubbing mode, blacklist and whitelist, black hole, and traffic blocking.
#unique_25	After you set up an Anti-DDoS Pro instance to protect your service, you can configure the following HTTP flood protection policies to protect your site against HTTP flood attacks: blacklist and whitelist, HTTP flood protection.
#unique_26	After you set up an Anti-DDoS Pro instance to protect your service, you can view security reports and log data in the Anti-DDoS Pro console.

3.1.2 Step 1: Add a website

After you buy an Anti-DDoS Pro instance, you must add your website in the Anti-DDoS Pro console. To set up an Anti-DDoS Pro instance to protect your service, you need to enter your domain information in the Anti-DDoS Pro console.

Prerequisites

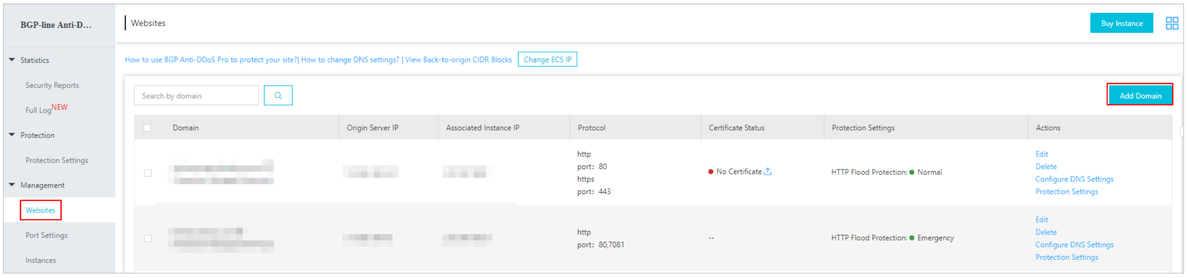
You have purchased an Anti-DDoS Pro instance. To view your instance, go to the Management > Instances page. For more information about purchasing Anti-DDoS Pro instances, see#unique_28.



Instance	Line	IP Address	Date	Protection	Actions
ID: ddoscoo-cn-[redacted] Name: -- Plan:Unlimited Plan Protection Package:Standard Normal Bandwidth：100M	Eight BGP-Line	[redacted]	Purchase Date:2019-6-14 Expiration Date:2019-8-15	Status: ● Normal Protection Settings Protected Ports: 0 (Maximum: 1) Protected Domains: 1 (Maximum: 1) Available Advanced Mitigations in this Month:Unlimited	Renew Upgrade View Reports
ID: ddoscoo-cn-[redacted] Name: -- Plan:Unlimited Plan Protection Package:Standard Normal Bandwidth：100M	Eight BGP-Line	[redacted]	Purchase Date:2019-6-14 Expiration Date:2019-7-15	Status: ● Normal Protection Settings Protected Ports: 0 (Maximum: 1) Protected Domains: 1 (Maximum: 1) Available Advanced Mitigations in this Month:Unlimited	Renew Upgrade View Reports

Procedure

1. Log on to the Anti-DDoS Pro console.
2. In the left-side navigation pane, select Management > Websites.
3. On the Websites page, click Add Domain.



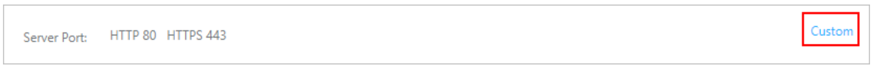
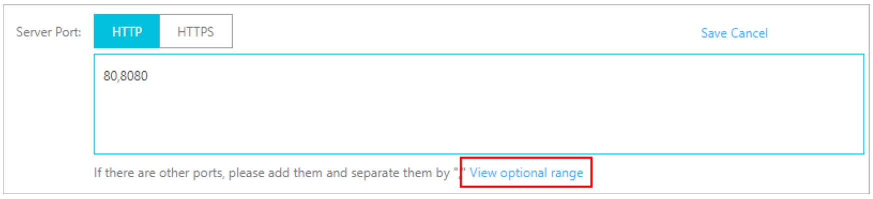
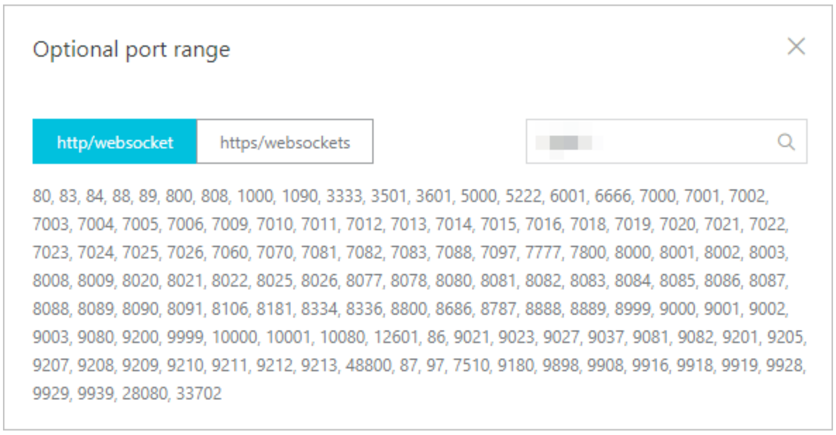
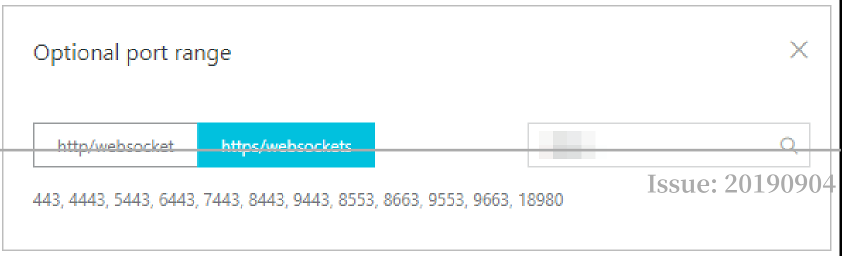
□	Domain	Origin Server IP	Associated Instance IP	Protocol	Certificate Status	Protection Settings	Actions
□	[redacted]	[redacted]	[redacted]	http port: 80 https port: 443	● No Certificate	HTTP Flood Protection: ● Normal	Edit Delete Configure DNS Settings Protection Settings
□	[redacted]	[redacted]	[redacted]	http port: 80,7081	--	HTTP Flood Protection: ● Emergency	Edit Delete Configure DNS Settings Protection Settings

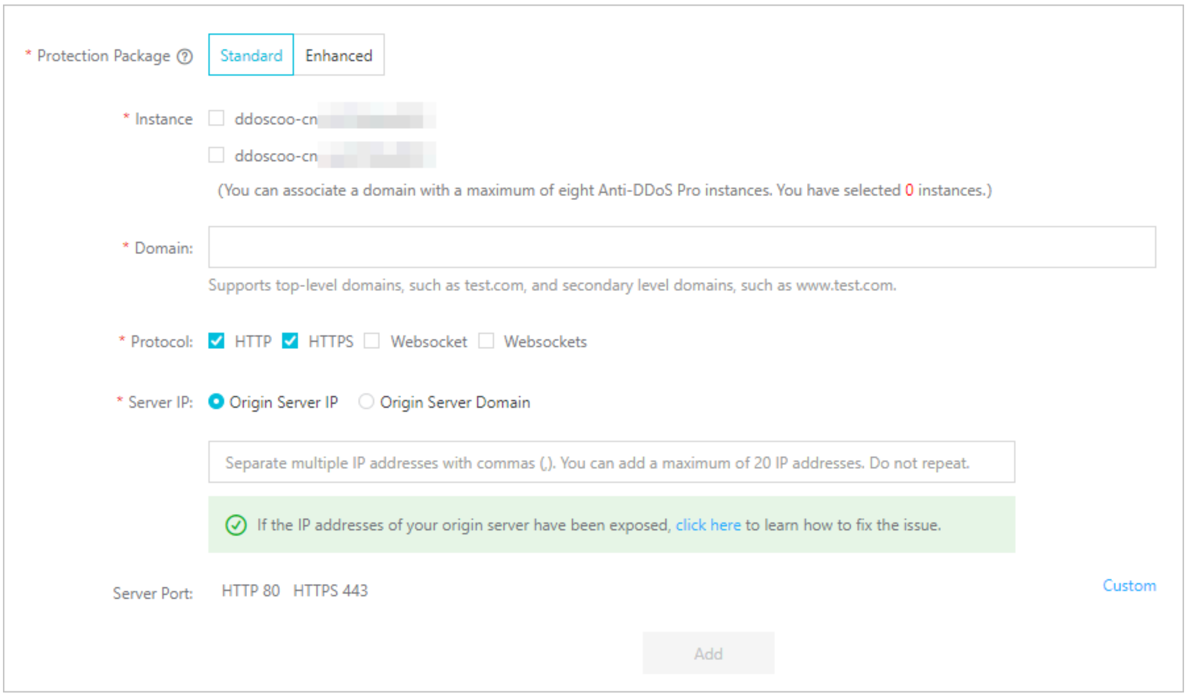
4. On the Add Domain page, complete the configuration under the Enter Site Information tab. The configuration details are as follows:

Item	Description
Protection Package	The type of Anti-DDoS Pro instance that you want to assocaite with the domain. Valid values: · Standard · Enhanced

Item	Description
Instance	Available instances are listed based on the specified Protection Package. Note: If no instance is displayed, it means you have no instance under the specified Protection Package. We recommend that you buy an Enhanced instance or upgrade the existing Standard intance to the Enhanced type. Select one or more instacnes to associate with the domain. Note: You can associate a domain with a maximum of eight Anti-DDoS Pro instances. Besides, these instances must under the same Protection Package.
Domain	The domain of the website that you want to protect. Note: · Supports wildcard domains, such as `*. aliyun . com` . Anti-DDoS Pro automatically matches all subdomains for the wildcard domain. · If you enter a wildcard domain and a specific domain name, such as `*. aliyun . com` and `www . aliyun . com` , Anti-DDoS Pro will use the redirection rules and protections policies of the specific domain name.
Protocol	The protocols supported by your website. Valid values: · HTTP (Selected by default) · HTTPS (Selected by default) · Websocket · Websockets Note: If your website supports HTTPS encrypted connections, you must select HTTPS. Select other protocols if applicable.

Item	Description
Server Address	Select the address type of the origin server and specify the address. Supported address types are as follows: · Origin Server IP: You can enter up to 20 IP addresses of the origin server. When multiple origin server IPs are specified, Anti-DDoS Pro uses IP hash load balancing to forward traffic back to the origin server. · Origin Server Domain: If you want to use Anti-DDoS Pro and WAF together for enhanced protection, you can select Origin Server Domain and enter the CNAME provided by your WAF instance.

Item	Description
Origin server ports	The server ports are automatically assigned based on the protocols you have selected. Note: The forwarding port is the same as the port of the origin server. - When HTTP or Websocket is selected, the port is set to 80 by default. - When HTTPS or Websockets is selected, the port is set to 443 by default. Anti-DDoS Pro allows you to specify custom ports. You can click Custom to select ports other than the default ones.  Server Port: HTTP 80 HTTPS 443  Server Port: HTTP HTTPS 80,8080 If there are other ports, please add them and separate them by "," - Standard instance: The optional HTTP/Websocket ports are 80 and 8080. The optional HTTPS/Websockets ports are 443 and 8443. - Enhanced instance: The optional HTTP/Websocket and HTTPS/Websockets ports are described in the following figures.  Optional port range 80, 83, 84, 88, 89, 800, 808, 1000, 1090, 3333, 3501, 3601, 5000, 5222, 6001, 6666, 7000, 7001, 7002, 7003, 7004, 7005, 7006, 7009, 7010, 7011, 7012, 7013, 7014, 7015, 7016, 7018, 7019, 7020, 7021, 7022, 7023, 7024, 7025, 7026, 7060, 7070, 7081, 7082, 7083, 7088, 7097, 7777, 7800, 8000, 8001, 8002, 8003, 8008, 8009, 8020, 8021, 8022, 8025, 8026, 8077, 8078, 8080, 8081, 8082, 8083, 8084, 8085, 8086, 8087, 8088, 8089, 8090, 8091, 8106, 8181, 8334, 8336, 8800, 8686, 8787, 8888, 8889, 8999, 9000, 9001, 9002, 9003, 9080, 9200, 9999, 10000, 10001, 10080, 12601, 86, 9021, 9023, 9027, 9037, 9081, 9082, 9201, 9205, 9207, 9208, 9209, 9210, 9211, 9212, 9213, 48800, 87, 97, 7510, 9180, 9898, 9908, 9916, 9918, 9919, 9928, 9929, 9939, 28080, 33702  Optional port range 443, 4443, 5443, 6443, 7443, 8443, 9443, 8553, 8663, 9553, 9663, 18980



* Protection Package ⓘ Standard Enhanced

* Instance □ ddoscoo-cn
□ ddoscoo-cn
(You can associate a domain with a maximum of eight Anti-DDoS Pro instances. You have selected 0 instances.)

* Domain:
Supports top-level domains, such as test.com, and secondary level domains, such as www.test.com.

* Protocol: ☑ HTTP ☑ HTTPS □ Websocket □ Websockets

* Server IP: ● Origin Server IP ○ Origin Server Domain

Separate multiple IP addresses with commas (,). You can add a maximum of 20 IP addresses. Do not repeat.

If the IP addresses of your origin server have been exposed, click here to learn how to fix the issue.

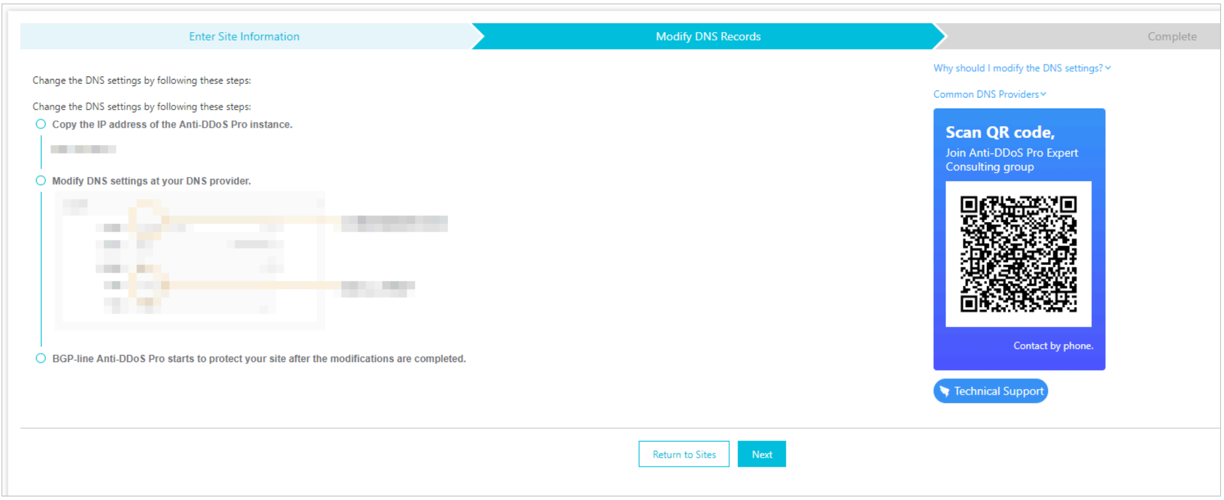
Server Port: HTTP 80 HTTPS 443 Custom

Add

5. Click Add.

Result

After a domain is added, you are automatically directed to the Modify DNS Records page. You can click Back to go to the Websites page and view the newly added domain information.



Enter Site Information > Modify DNS Records > Complete

Change the DNS settings by following these steps:

Change the DNS settings by following these steps:

○ Copy the IP address of the Anti-DDoS Pro instance.

○ Modify DNS settings at your DNS provider.

○ BGP-line Anti-DDoS Pro starts to protect your site after the modifications are completed.

Why should I modify the DNS settings?

Common DNS Providers

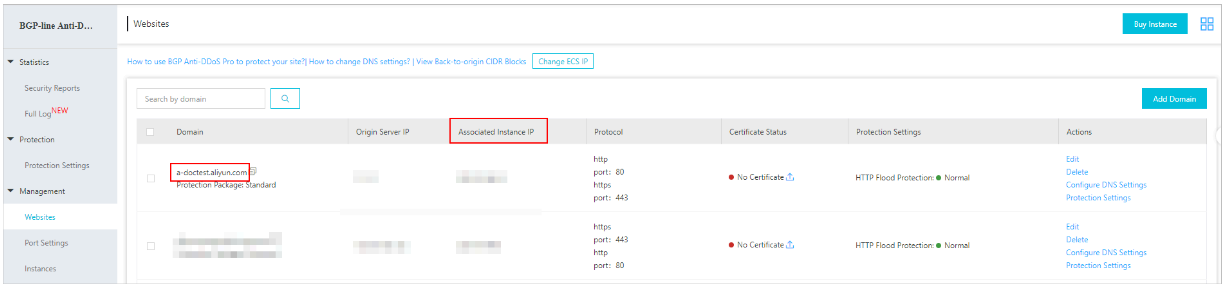
Scan QR code,
Join Anti-DDoS Pro Expert Consulting group

Contact by phone.

Technical Support

Return to Sites Next

Anti-DDoS Pro automatically associates each domain with an Anti-DDoS Pro instance IP address. You need to change the A record value of your domain to the Anti-DDoS Pro instance IP address. The incoming traffic to your site is then forwarded to your Ant-DDoS Pro Instance.



□	Domain	Origin Server IP	Associated Instance IP	Protocol	Certificate Status	Protection Settings	Actions
□	a-doctest.aliyun.com Protection Package: Standard	[redacted]	[redacted]	http port: 80 https port: 443	● No Certificate	HTTP Flood Protection: ● Normal	Edit Delete Configure DNS Settings Protection Settings
□	[redacted]	[redacted]	[redacted]	https port: 443 http port: 80	● No Certificate	HTTP Flood Protection: ● Normal	Edit Delete Configure DNS Settings Protection Settings

What's next

- #unique_23
- #unique_29: If your website supports the HTTPS protocol, you must upload your SSL certificate to enable Anti-DDoS Pro to filter HTTPS requests.

3.1.3 Step 2: Change DNS records

This topic describes how to change A records in the Alibaba Cloud DNS console to forward incoming traffic to your site to your Anti-DDoS Pro instance.

Prerequisites

Make sure to complete the following tasks before you change DNS records.

- You have added your website in the Anti-DDoS Pro console. For more information, see #unique_22.
- If you are using additional firewalls to protect your origin server, disable the firewalls or add the back-to-origin IP addresses used by your Anti-DDoS Pro instance to the whitelist. For more information, see #unique_31.

  After the incoming traffic to your site is forwarded to the IP address of your Anti-DDoS Pro instance, the instance scrubs your traffic and uses the back-to-origin IP addresses to forward normal traffic back to your origin server. Therefore, if the back-to-origin IP addresses used by your Anti-DDoS Pro instance are not added to the whitelist of your firewall, normal traffic to your site may be blocked by mistake , making your website inaccessible.
- Verify that your forwarding configuration works as expected. Before you change DNS records to forward incoming traffic to Anti-DDoS Pro, we recommend that you verify that your Anti-DDoS Pro instance can forward traffic back to the origin server. For more information, see Verify forwarding configurations.

Context

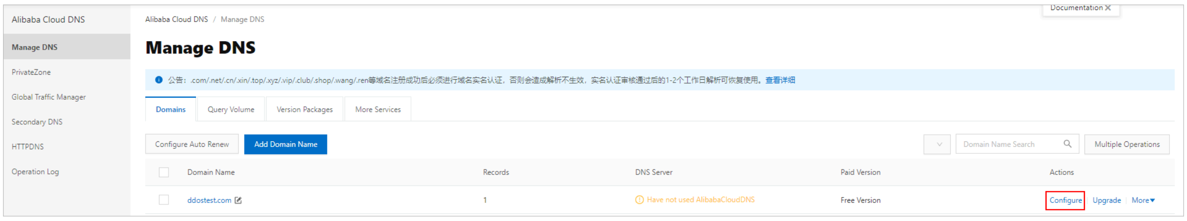
The following example assumes that your domain is managed by Alibaba Cloud DNS. If you are using other domain name resolution services, log on to the DNS server and change the A record value of your domain to the IP addresses of your Anti-DDoS Pro instance.

> **Note:**
> Alibaba Cloud provides free and paid versions of Alibaba Cloud DNS. If your domain is managed under a paid version of Alibaba Cloud DNS, we recommend that you use NS records to set up your Anti-DDoS Pro instance. For more information, see #unique_33.

Assume that you added the following domain in step 1: `bgp . ddostest . com` . The following example describes how to change or add A records in the Alibaba Cloud DNS console.

Procedure

1. Log on to the Alibaba Cloud DNS consoleAlibaba Cloud DNS console.
2. On the Manage DNS page, select domain `doctest . com` , and click Configure in the Actions column.

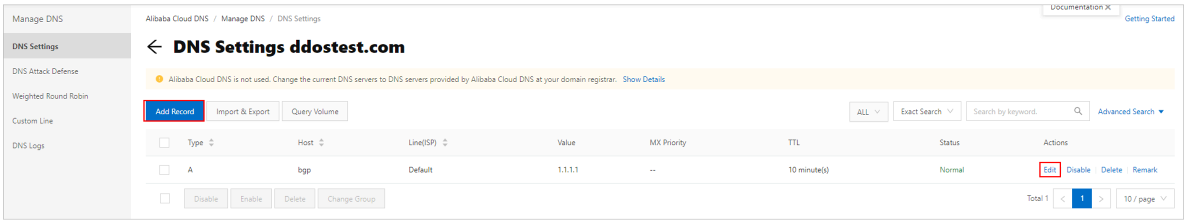


公告：.com/.net/.cn/.xin/.top/.xyz/.vip/.club/.shop/.wang/.ren等域名注册成功后必须进行域名实名认证，否则会造成解析不生效，实名认证审核通过后的1-2个工作日解析可恢复使用。查看详细

□	Domain Name	Records	DNS Server	Paid Version	Actions
□	ddostest.com	1	Have not used AlibabaCloudDNS	Free Version	Configure Upgrade More▾

3. On the DNS Settings page, select the A record whose host is bpg, and click Edit in the Actions column.

> **Note:**
> If you cannot find the A record in the list, you can click Add Record.



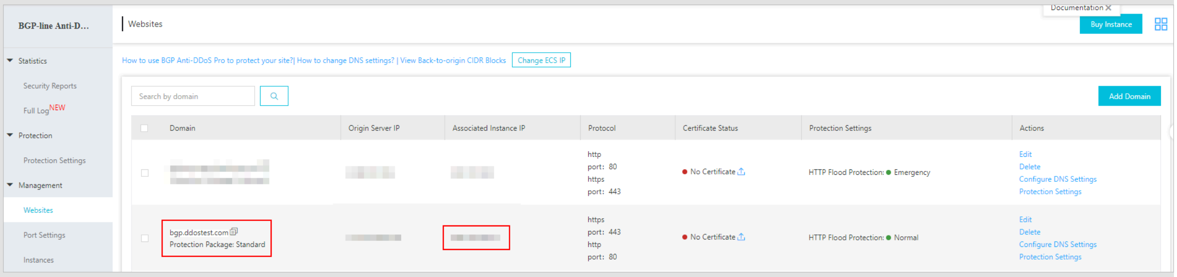
Alibaba Cloud DNS is not used. Change the current DNS servers to DNS servers provided by Alibaba Cloud DNS at your domain registrar. Show Details

□	Type	Host	Line(ISP)	Value	MX Priority	TTL	Status	Actions
□	A	bgp	Default	1.1.1.1	--	10 minute(s)	Normal	Edit Disable Delete Remark

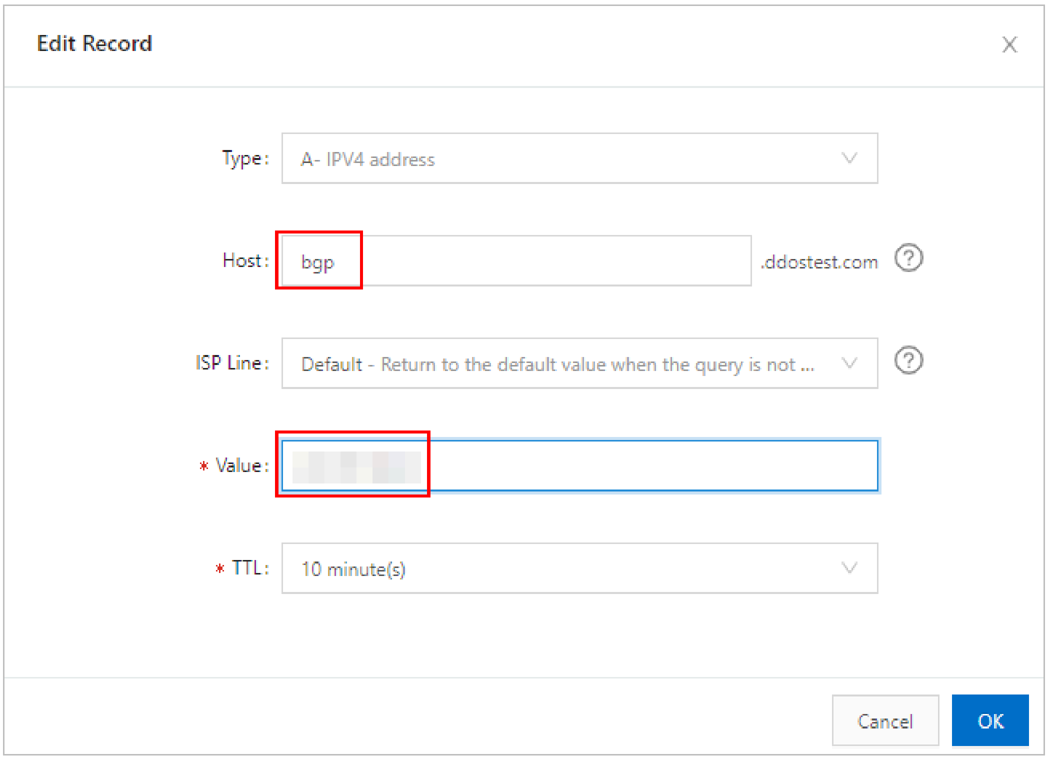
4. On the Edit Record or Add Record dialog box, change the Value to the IP address of your Anti-DDoS Pro instance.

   Note:

   After you add a domain in the Anti-DDoS Pro console, the domain is automatically associated with an Anti-DDoS Pro instance. To view the IP address of the Anti-DDoS Pro instance associated with your domain, go to the Anti-DDoS Pro console Anti-DDoS Pro console and select Management > Websites. For more information, see #unique_22.



□	Domain	Origin Server IP	Associated Instance IP	Protocol	Certificate Status	Protection Settings	Actions
□	[redacted]	[redacted]	[redacted]	http port: 80 https port: 443	● No Certificate	HTTP Flood Protection: ● Emergency	Edit Delete Configure DNS Settings Protection Settings
□	bgp.ddostest.com Protection Package: Standard	[redacted]	[redacted]	https port: 443 http port: 80	● No Certificate	HTTP Flood Protection: ● Normal	Edit Delete Configure DNS Settings Protection Settings



Edit Record

Type: A- IPV4 address

Host: bgp .ddostest.com

ISP Line: Default - Return to the default value when the query is not ...

* Value: [redacted]

* TTL: 10 minute(s)

5. Click OK and wait for the configuration to take effect.

What's next

#unique_24

3.1.4 Step 3: Configure DDoS protection policies

After you set up an Anti-DDoS Pro instance to protect your service, Anti-DDoS Smart Defense is enabled by default. You can modify DDoS protection policies based on your needs.

Prerequisites

You have added your website in the Anti-DDoS Pro console. For more information, see #unique_22.

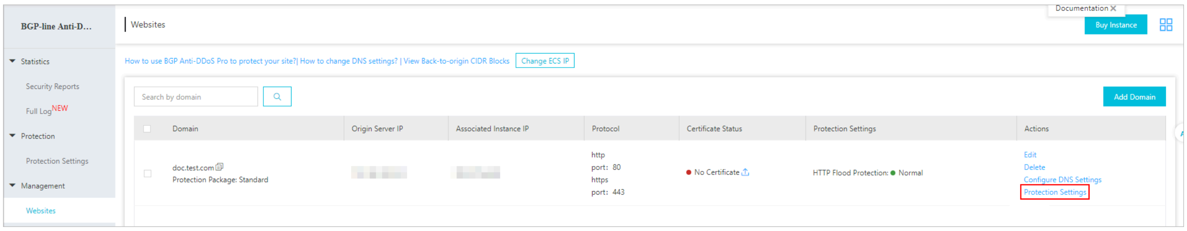
Context

You can modify the following DDoS protection policies:

DDoS protection policy	Description
Scrubbing mode	Smart Defense bases its decisions on historical traffic data. If this is the first time that you set up an Anti-DDoS Pro instance to protect your service, note that it takes Smart Defense about three days to learn your traffic pattern to provide the best protection. If attacks are launched against your service within these three days, you can mitigate attacks by limiting the number of new connections from specific IP addresses. If Smart Defense fails to meet your needs under the normal mode, you can set the mode to strict to enable the most rigorous protection.
Blacklist and whitelist	For IP addresses that send a large number of malicious requests to your server, you can add them to the blacklist to block their requests. You can add the following IP addresses to the whitelist to allow their requests without further inspection : internal CIDR blocks, service interface IP addresses, and verified IP addresses.
Deactivate black holes	After you set up an Anti-DDoS Pro instance to protect your site , incoming traffic to your site is forwarded to a black hole when the peak attack bandwidth exceeds your basic or burstable bandwidth. To restore your service, you can deactivate the black hole in the Anti-DDoS Pro console.
Block traffic	We recommend that you block traffic when your service is experiencing DDoS attacks and the peak attack bandwidth is likely to exceed your burstable bandwidth. You can block overseas traffic transmitted through China Telecom and China Unicom networks to mitigate attacks.

Procedure

1. Log on to the Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Management > Websites.
3. In the websites list, select a domain and click Protection Settings.



Websites

How to use BGP Anti-DDoS Pro to protect your site?| How to change DNS settings? | View Back-to-origin CIDR Blocks Change ECS IP

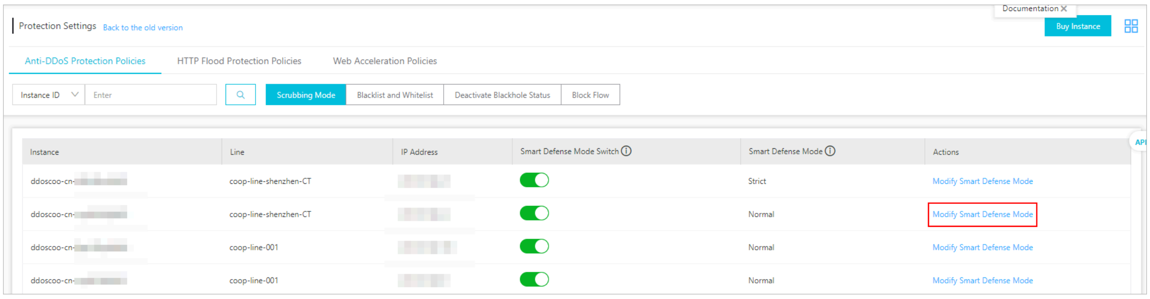
□	Domain	Origin Server IP	Associated Instance IP	Protocol	Certificate Status	Protection Settings	Actions
□	doc.test.com Protection Package: Standard	[redacted]	[redacted]	http port: 80 https port: 443	● No Certificate	HTTP Flood Protection: ● Normal	Edit Delete Configure DNS Settings Protection Settings

4. On the Protection Settings page, click Anti-DDoS Protection Policies and perform the following steps based on your needs:

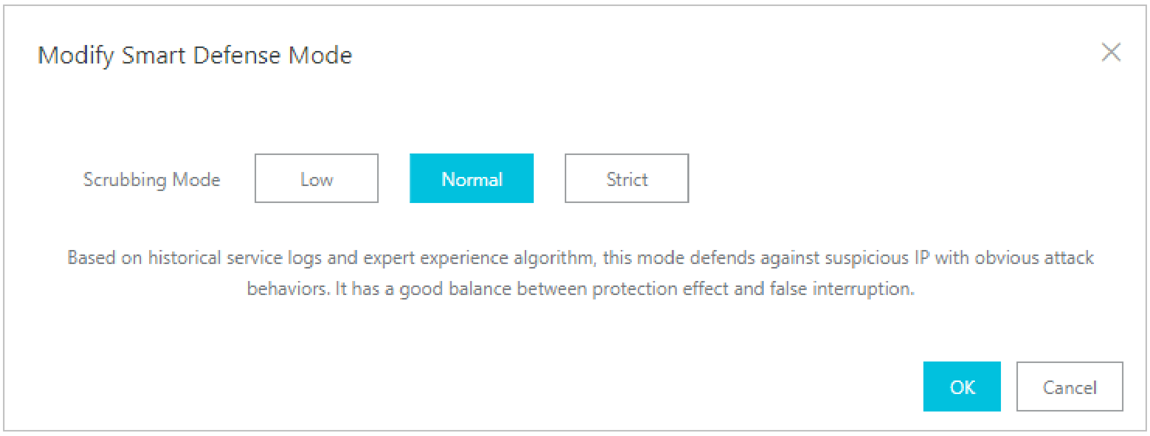
   - Scrubbing Mode

     Select an Anti-DDoS Pro instance and click Modify Smart Defense Mode in the Actions column. In the Modify Smart Defense Mode dialog box, select a scrubbing mode. Anti-DDoS Pro supports the following scrubbing modes:

     - Low: This mode scrubs traffic that displays common attack patterns. The mode provides moderate protection capabilities and has a low false positive rate.
     - Normal: This mode scrubs traffic that displays common and likely attack patterns. The mode maintains an optimal balance between protection and false positives.
     - Strict: This mode provides the most rigorous protection against malicious traffic and may cause a certain number of false positives.



Instance	Line	IP Address	Smart Defense Mode Switch	Smart Defense Mode	Actions
ddoscoo-cn-[redacted]	coop-line-shenzhen-CT	[redacted]	●	Strict	Modify Smart Defense Mode
ddoscoo-cn-[redacted]	coop-line-shenzhen-CT	[redacted]	●	Normal	Modify Smart Defense Mode
ddoscoo-cn-[redacted]	coop-line-001	[redacted]	●	Normal	Modify Smart Defense Mode
ddoscoo-cn-[redacted]	coop-line-001	[redacted]	●	Normal	Modify Smart Defense Mode



Scrubbing Mode: Normal

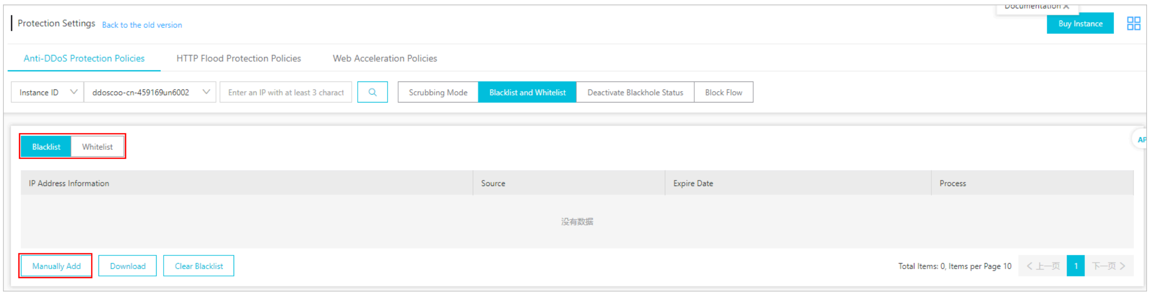
Based on historical service logs and expert experience algorithm, this mode defends against suspicious IP with obvious attack behaviors. It has a good balance between protection effect and false interruption.

   - Blacklist and Whitelist

     Note:

> The configurations of the blacklist and whitelist are effective for individual domains, not Anti-DDoS Pro instances.

You can click Manually Add to add IP addresses to the blacklist or whitelist. For more information, see #unique_12.

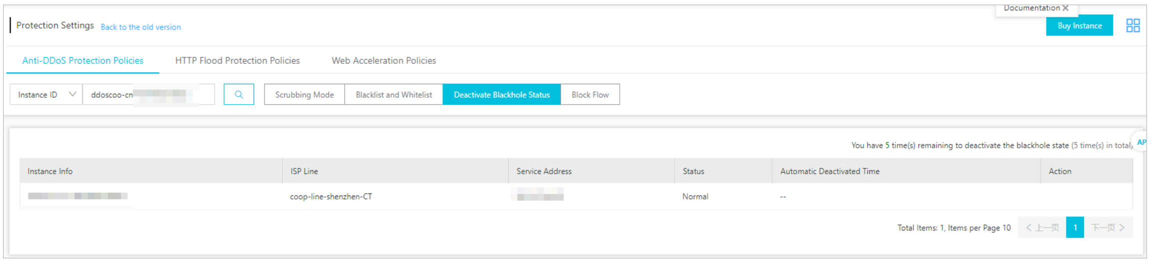


IP Address Information	Source	Expire Date	Process
没有数据			

Total Items: 0, Items per Page 10

- Deactivate Blackhole Status

  You can click Deactivate in the Actions column to deactivate the black hole when your Anti-DDoS Pro instance is in the Black Hole status. For more information, see #unique_35.



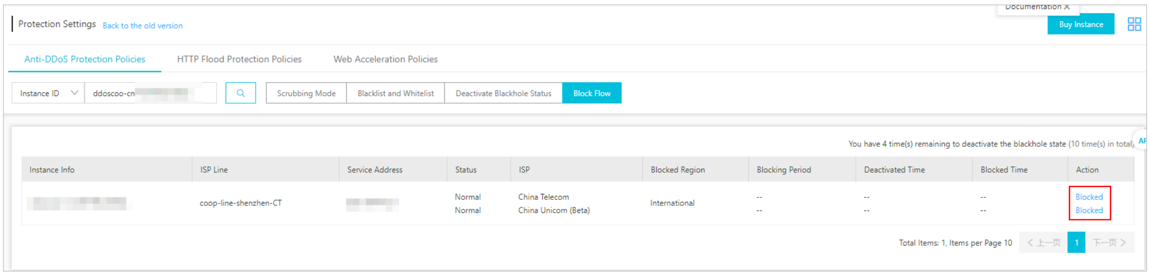
You have 5 time(s) remaining to deactivate the blackhole state (5 time(s) in total)

Instance Info	ISP Line	Service Address	Status	Automatic Deactivated Time	Action
[redacted]	coop-line-shenzhen-CT	[redacted]	Normal	--	

Total Items: 1, Items per Page 10

- Block Flow

  Select an Anti-DDoS Pro instance, and click Blocked in the Actions column to block overseas traffic transmitted through China Telecom and China Unicom networks. For more information, see #unique_36.



You have 4 time(s) remaining to deactivate the blackhole state (10 time(s) in total)

Instance Info	ISP Line	Service Address	Status	ISP	Blocked Region	Blocking Period	Deactivated Time	Blocked Time	Action
[redacted]	coop-line-shenzhen-CT	[redacted]	Normal Normal	China Telecom China Unicom (Beta)	International	-- --	-- --	-- --	Blocked Blocked

Total Items: 1, Items per Page 10

3.1.5 Step 4: Configure HTTP flood protection policies

After you set up an Anti-DDoS Pro instance to protect your service, you can configure HTTP flood protection policies to protect your site against HTTP flood attacks.

Prerequisites

You have added your website in the Anti-DDoS Pro console. For more information, see #unique_22.

Context

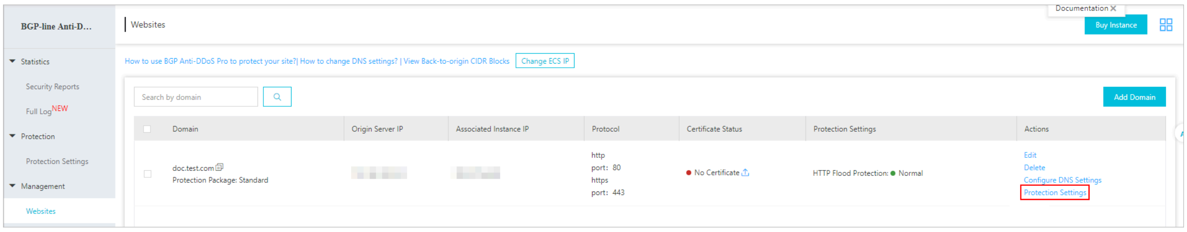
Anti-DDoS Pro provides the following HTTP flood protection policies:

- Blacklist and Whitelist: You can use the blacklist to block requests from specific IP addresses, or use the whitelist to allow specific IP addresses to access your site without further inspection.
- HTTP Flood Protection: You can enable HTTP Flood Protection to automatically detect and block flood requests. You can select default protection settings or create custom protection rules based on your needs.
  - Default protection settings: You can select from four modes that have different protection capabilities to meet your business needs.
  - Custom protection rules: You can create custom rules to limit the requests to specific directories on your site.

Note:
Currently, a series of new protection policies are in preview testing. By default, Anti-DDoS Pro only provides the following features for mitigating flood attacks: Blacklist, Whitelist, and HTTP Flood Protection. If you want to use the following new features: Geo-blocking, Accurate Access Control, Intelligent Protection, and Web Acceleration, we recommend that you switch to new protection policies. For more information, see #unique_38.

Procedure

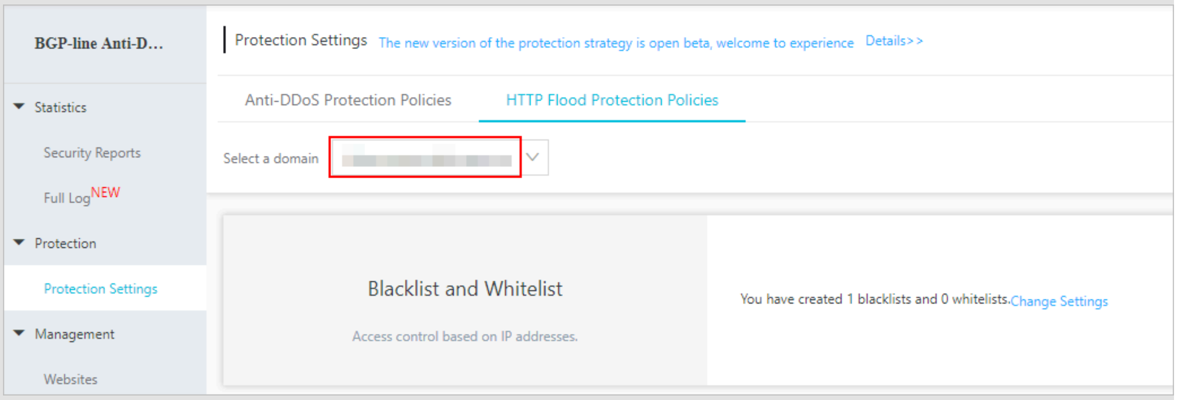
1. Log on to the Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Management > Websites.
3. In the website list, select a domain and click Protection Settings.



Domain	Origin Server IP	Associated Instance IP	Protocol	Certificate Status	Protection Settings	Actions
doc.test.com Protection Package: Standard	[redacted]	[redacted]	http port: 80 https port: 443	● No Certificate	HTTP Flood Protection: ● Normal	Edit Delete Configure DNS Settings Protection Settings

4. On the Protection Settings page, click HTTP Flood Protection Policies and perform the following steps based on your needs:

   Note:
   HTTP flood protection policies take effect for domains. Make sure to specify the correct domain before you configure HTTP flood protection policies.



The new version of the protection strategy is open beta, welcome to experience

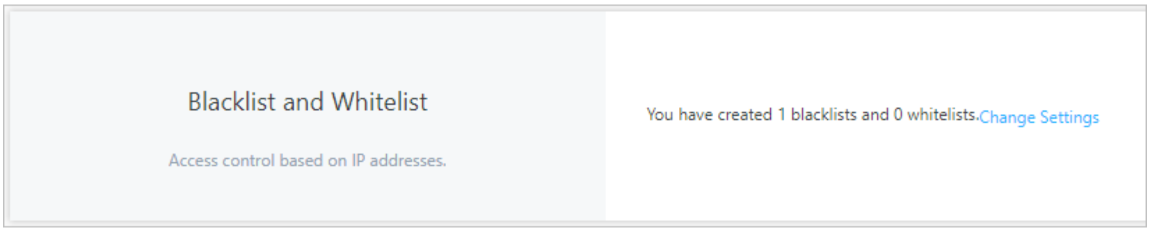
Select a domain [redacted]

Access control based on IP addresses.

You have created 1 blacklists and 0 whitelists.

- Blacklist and Whitelist

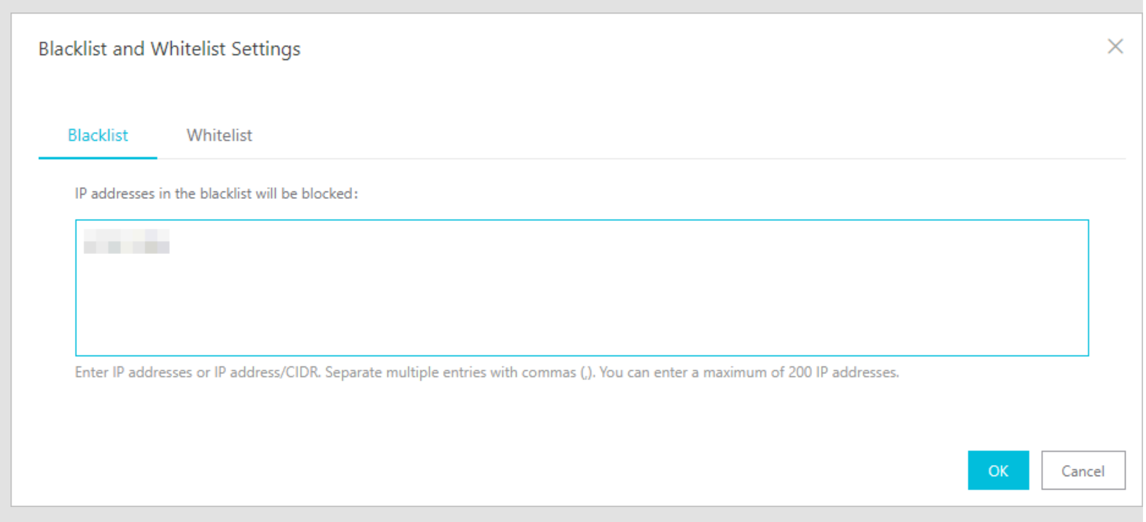
  Select Blacklist and Whitelist, and click Change Settings. In the Blacklist and Whitelist Settings dialog box, add IP addresses or CIDR blocks to the blacklist and whitelist respectively.



Access control based on IP addresses.

You have created 1 blacklists and 0 whitelists.

  Note:
  You can enter up to 200 IP addresses or CIDR blocks in the blacklist and whitelist respectively. Separate multiple IP addresses or CIDR blocks with commas (,).



Blacklist and Whitelist Settings

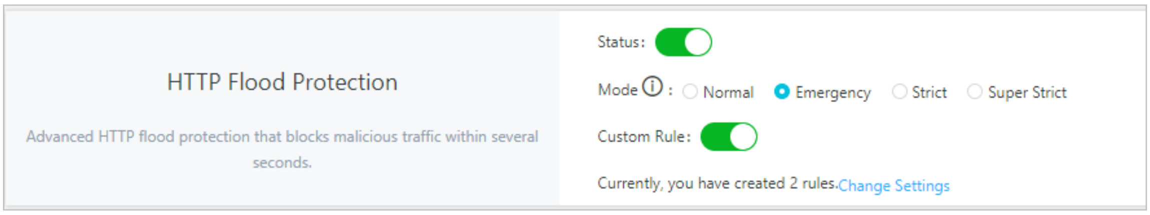
IP addresses in the blacklist will be blocked:

[redacted]

Enter IP addresses or IP address/CIDR. Separate multiple entries with commas (,). You can enter a maximum of 200 IP addresses.

- HTTP Flood Protection

  Select HTTP Flood Protection, and click the Switch icon next to Status to enable HTTP Flood Protection. You can then select default protection settings or create custom rules based on your business needs.



HTTP Flood Protection

Advanced HTTP flood protection that blocks malicious traffic within several seconds.

Status:

Mode: ○ Normal ● Emergency ○ Strict ○ Super Strict

Custom Rule:

Currently, you have created 2 rules.Change Settings

  - Default protection settings

    You can select one of the following modes to protect your service: Normal, Emergency, Strict, and Super Strict.

    Note:

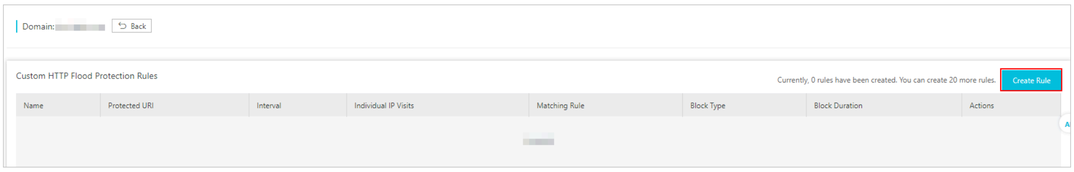
    Different modes provide different protection capabilities. Modes that offer higher protection capabilities usually have higher false positive rates. We recommend that you enable modes with higher capabilities only when the

> other modes fail to mitigate attacks effectively. For more information, see #unique_10.

- Custom rules

a. Click the Switch icon next to Custom Rule, and click Change Settings.

b. On the Custom HTTP Flood Protection Rules page, click Create Rule.



Custom HTTP Flood Protection Rules

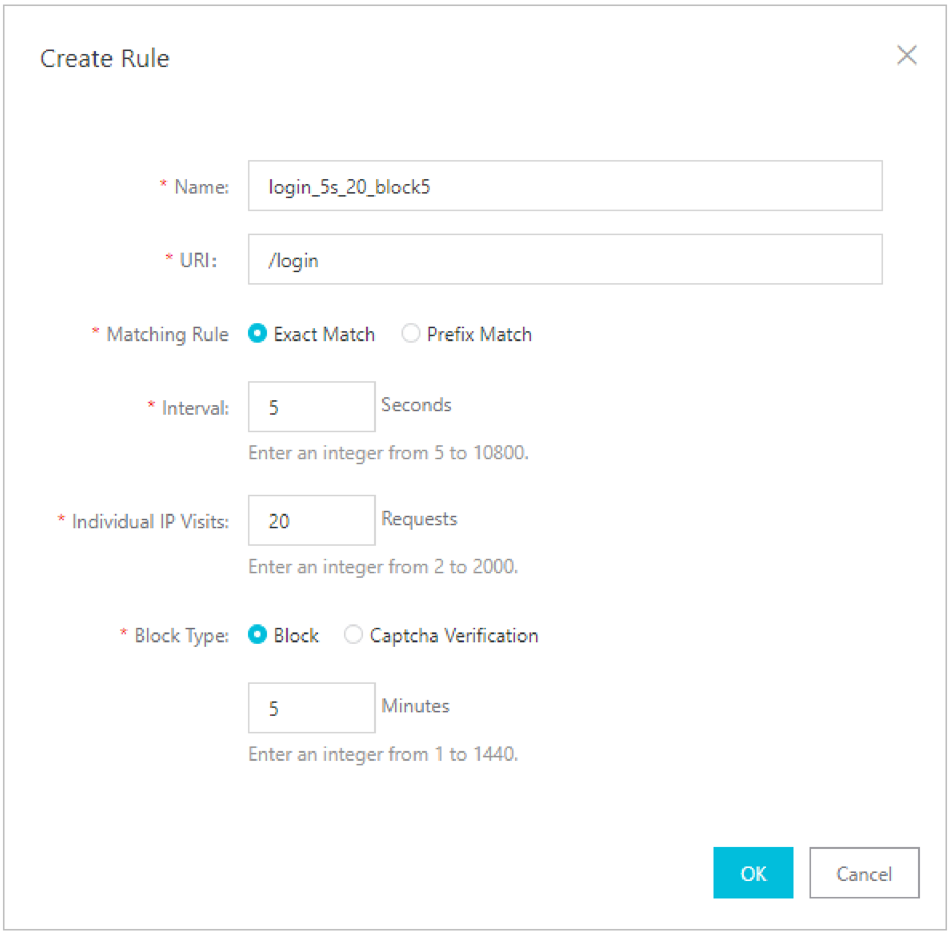
Currently, 0 rules have been created. You can create 20 more rules.

Name	Protected URI	Interval	Individual IP Visits	Matching Rule	Block Type	Block Duration	Actions

c. In the Create Rule dialog box, specify the following parameters.

Parameter	Description
Name	The name of the rule.
URI	The address of the page that you want to protect.
Matching Rule	The rule that determines whether a request is counted. Valid values: ■ Exact Match: A request is counted when the requested URI is the same as the protected URI. ■ Prefix Match: A request is counted when the prefix of the requested URI is the same as the protected URI.
Interval	The rule that determines whether a source IP address triggers the custom rule. When the number of counted requests from an IP address exceeds the Individual IP Visits limit during the Interval, the custom rule is triggered.
Individual IP Visits	

Parameter	Description
Block Type	The action to be performed when the custom rule is triggered. ■ Block: Blocks requests from the source IP address for a specific time period. ■ Captcha Verification: Redirects the request to a captcha verification page. To access your site, the user must pass the captcha verification.



Create Rule

* Name: login_5s_20_block5

* URI: /login

* Matching Rule ● Exact Match ○ Prefix Match

* Interval: 5 Seconds

Enter an integer from 5 to 10800.

* Individual IP Visits: 20 Requests

Enter an integer from 2 to 2000.

* Block Type: ● Block ○ Captcha Verification

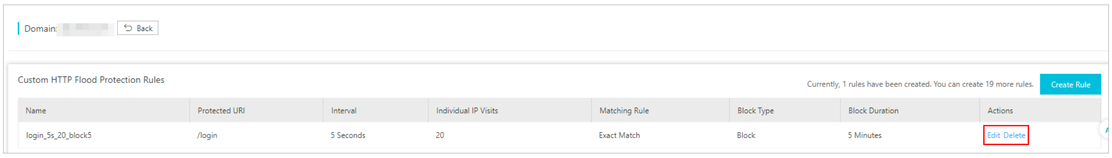
5 Minutes

Enter an integer from 1 to 1440.

In the previous example, when the number of requests to the `/ login` page from an IP address exceeds 20 within 5 seconds, the IP address is blocked for 5 minutes.

d. Click OK.

After a rule is created, it is displayed in the rule list. You can Edit or Delete rules based on your needs.



Domain: [redacted]

Custom HTTP Flood Protection Rules

Currently, 1 rules have been created. You can create 19 more rules.

Name	Protected URI	Interval	Individual IP Visits	Matching Rule	Block Type	Block Duration	Actions
login_5s_20_block5	/login	5 Seconds	20	Exact Match	Block	5 Minutes	Edit Delete

3.1.6 Step 5: View security reports and log data

After you set up an Anti-DDoS Pro instance to protect your service, you can view security reports and log data in the Anti-DDoS Pro console.

Prerequisites

- You have added your website in the Anti-DDoS Pro console. For more information, see #unique_22.
- You have changed DNS records to forward traffic to Anti-DDoS Pro. For more information, see #unique_23.

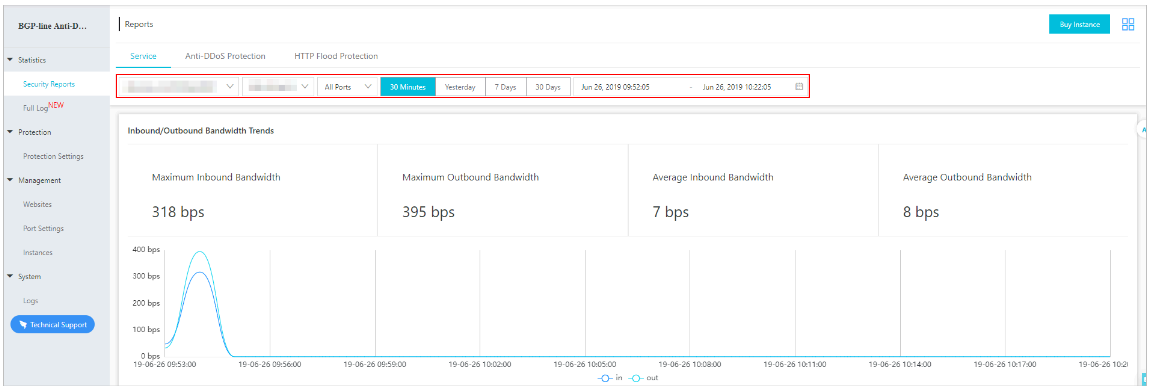
Procedure

1. Log on to the Anti-DDoS Pro console .

2. Perform the following steps based on your needs:

    - View security reports

      In the left-side navigation pane, choose Statistics > Security Reports. On the Reports page, select one of the following to view the corresponding reports: Service, Anti-DDoS Protection, and HTTP Flood Protection.



You can add multiple filter conditions to customize the reports. For example, time range, Anti-DDoS Pro instance, instance IP, and port number. The differences between these reports are as follows:

Report	Content	Filter condition
Service	- Changes of inbound and outbound bandwidth - Changes of concurrent connections and new connections	- Time range - Anti-DDoS Pro instance - Anti-DDoS Pro instance IP - Forwarding port
Anti-DDoS Protection	- Changes of back-to-origin traffic and scrubbed traffic - Records of DDoS attacks	- Time range - Anti-DDoS Pro instance - Anti-DDoS Pro instance IP

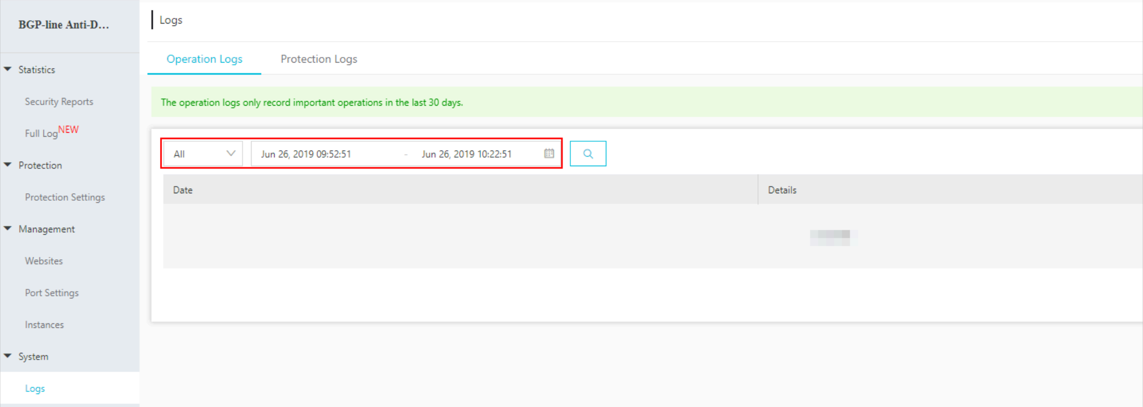
Report	Content	Filter condition
HTTP Flood Protection	- Changes of malicious requests and total requests - Records of HTTP flood attacks	- Time range - Protected domain

For more information, see #unique_40.

- Query and analyze log data

  In the left-side navigation pane, choose System > Logs. On the Logs page, select the type of log data that you want to query: Operation Logs, Protection Logs. The differences between these types of log data are as follows:

  - Operation logs record important operations of the last 30 days. For example , operations performed on IP addresses of protected assets, Anti-DDoS packages, and ECS instances. You can filter log records by time.
  - Protection logs record the attacks that are experienced by Anti-DDoS Pro instances. You can filter log records by time.



The operation logs only record important operations in the last 30 days.

All
Jun 26, 2019 09:52:51 - Jun 26, 2019 10:22:51

Date	Details

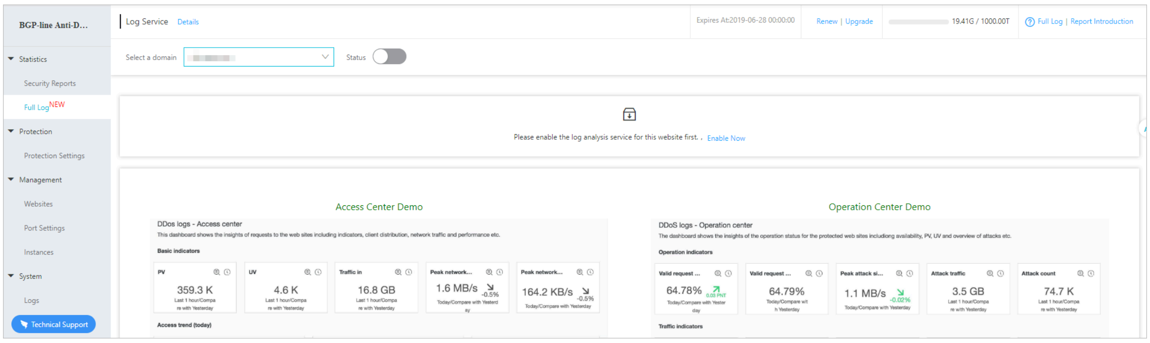
If you need to analyze log data in real time and display results with graphs, we recommend that you activate Anti-DDoS Pro Full Log Service. After Anti-DDoS Pro Full Log Service is activated, access logs on your site are collected and maintained by Alibaba Cloud Log Service. You can search and analyze log data in real time, and view search results through dashboards.

Anti-DDoS Pro Full Log Service is a value-added service. To use the service, you must activate and enable it. To use Anti-DDoS Pro Full Log Service, perform the following steps:

a. Activate Anti-DDoS Pro Full Log Service. For more information, see #unique_42/unique_42_Connect_42_section_tsj_h3f_g30.
b. Enable Anti-DDoS Pro Full Log Service. For more information, see #unique_42/unique_42_Connect_42_section_brn_bn3_kgb.

After Anti-DDoS Pro Full Log Service is enabled, you can choose Statistics > Full Log to search and analyze log data in real time. You can also view and edit dashboards, and set monitoring alerts on this page.

> Note:
> For more information about the fields that are displayed in a log record, see #unique_43.



Expires At:2019-06-28 00:00:00

19.41G / 1000.00T

Select a domain [redacted]   Status

Please enable the log analysis service for this website first. ,

DDos logs - Access center

This dashboard shows the insights of requests to the web sites including indicators, client distribution, network traffic and performance etc.

Basic indicators

PV	UV	Traffic in	Peak network...	Peak network...
359.3 K	4.6 K	16.8 GB	1.6 MB/s -0.5%	164.2 KB/s -0.5%
Last 1 hour/Compare with Yesterday	Last 1 hour/Compare with Yesterday	Last 1 hour/Compare with Yesterday	Today/Compare with Yesterday	Today/Compare with Yesterday

Access trend (today)

DDoS logs - Operation center

The dashboard shows the insights of the operation status for the protected web sites includiong availability, PV, UV and overview of attacks etc.

Operation indicators

Valid request ...	Valid request ...	Peak attack si...	Attack traffic	Attack count
64.78% 0.03 PNT	64.79%	1.1 MB/s -0.02%	3.5 GB	74.7 K
Today/Compare with Yesterday	Today/Compare with Yesterday	Today/Compare with Yesterday	Last 1 hour/Compare with Yesterday	Last 1 hour/Compare with Yesterday

Traffic indicators

3.2 Set up Anti-DDoS Pro using IPs and ports

3.2.1 Overview

This topic describes how to set up Anti-DDoS Pro by using IPs and ports to protect services such as client-based games, mobile games and native apps.

To set up Anti-DDoS Pro using IPs and ports, use the following steps:

Task	Description
#unique_46	Create port forwarding rules in the Anti-DDoS Pro console . Change the service IP to the IP address of your Anti-DDoS Pro instance.

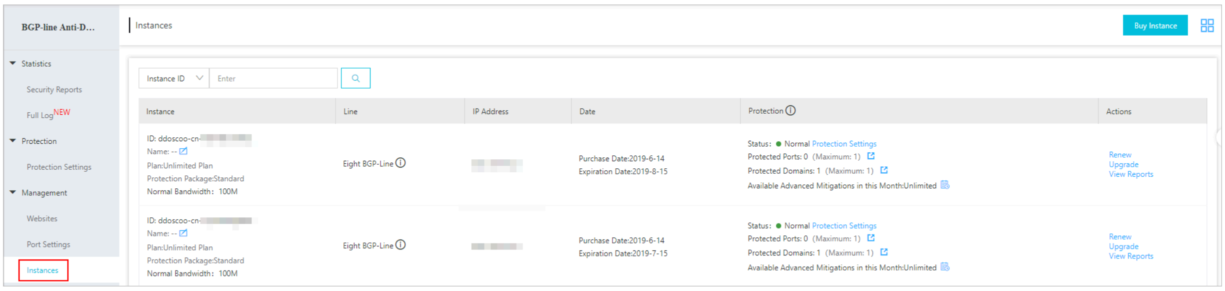
Task	Description
#unique_47	After creating a port forwarding rule, you can edit custom settings, such as session persistence, health check, and DDoS protection policies.
#unique_48	After you set up an Anti-DDoS Pro instance to protect your service, you can view the traffic that goes through your service in the Anti-DDoS Pro console.

3.2.2 Step 1: Create a port forwarding rule

To use Anti-DDoS Pro to protect services, such as client-based games, mobile games, and native apps, you must create port forwarding rules and change the service IP to the IP address of your Anti-DDoS Pro instance. This topic describes how to create port forwarding rules in the Anti-DDoS Pro console.

Prerequisites

You have purchased an Anti-DDoS Pro instance. To view your instance, choose Management > Instances. For more information about purchasing Anti-DDoS Pro instances, see #unique_28.



Instance	Line	IP Address	Date	Protection	Actions
ID: ddoscoo-cn-[redacted] Name: -- Plan:Unlimited Plan Protection Package:Standard Normal Bandwidth： 100M	Eight BGP-Line	[redacted]	Purchase Date:2019-6-14 Expiration Date:2019-8-15	Status： ● Normal Protection Settings Protected Ports: 0 (Maximum: 1) Protected Domains: 1 (Maximum: 1) Available Advanced Mitigations in this Month:Unlimited	Renew Upgrade View Reports
ID: ddoscoo-cn-[redacted] Name: -- Plan:Unlimited Plan Protection Package:Standard Normal Bandwidth： 100M	Eight BGP-Line	[redacted]	Purchase Date:2019-6-14 Expiration Date:2019-7-15	Status： ● Normal Protection Settings Protected Ports: 0 (Maximum: 1) Protected Domains: 1 (Maximum: 1) Available Advanced Mitigations in this Month:Unlimited	Renew Upgrade View Reports

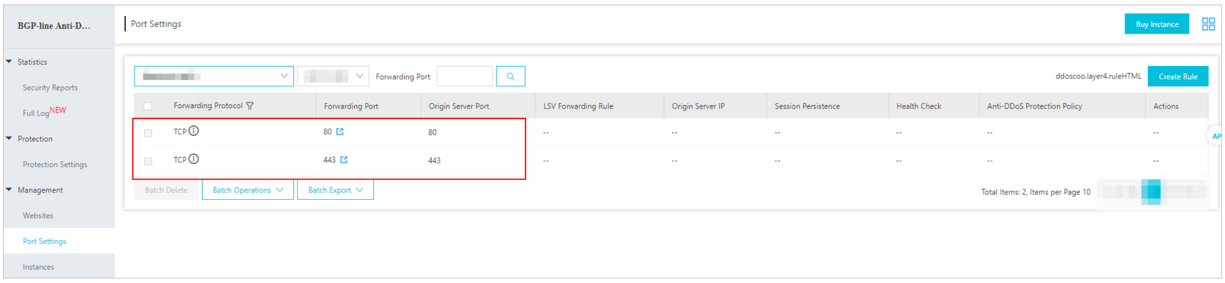
Context

If you set up Anti-DDoS Pro instances using IPs and ports, these instances only support layer 4 forwarding. Anti-DDoS Pro only provides defense against layer 4 attacks, such as SYN flood attacks and UDP flood attacks. The service does not parse layer 7 packets or mitigate layer 7 attacks, such as HTTP flood attacks and Web attacks . To set up Anti-DDoS Pro instances using IPs and ports, you only need to create port forwarding rules in the Anti-DDoS Pro console.

Manage forwarding rule conflicts

If you have added your website in the Anti-DDoS Pro console and set up an Anti-DDoS Pro instance using the website domain, the system automatically generates a forwarding rule for the domain. Incoming traffic to the website is forwarded according to this forwarding rule. For more information about adding a website in the Anti-DDoS Pro console, see #unique_22.

- If the forwarding port is set to 80, the system automatically generates a rule that forwards traffic on TCP port 80 to the origin server. The rule is not generated if the same rule already exists.
- If the forwarding port is set to 443, the system automatically generates a rule that forwards traffic on TCP port 443 to the origin server. The rule is not generated if the same rule already exists.



[redacted] [redacted]

Forwarding Protocol	Forwarding Port	Origin Server Port	LSV Forwarding Rule	Origin Server IP	Session Persistence	Health Check	Anti-DDoS Protection Policy	Actions
TCP	80	80	--	--	--	--	--	--
TCP	443	443	--	--	--	--	--	--

Total Items: 2, Items per Page 10

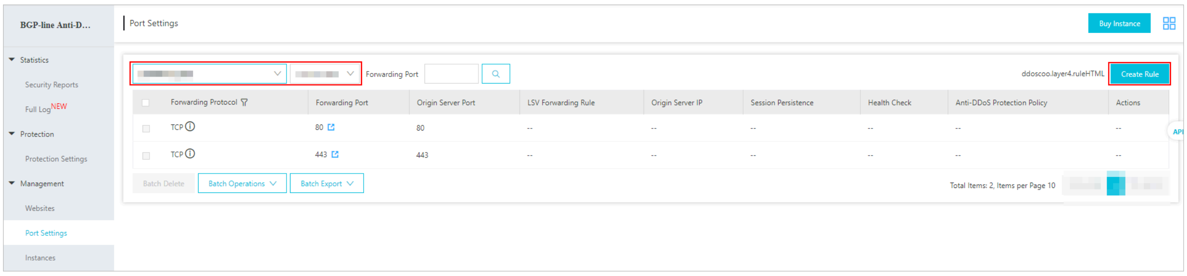
You cannot edit or delete rules that are automatically generated by the system. The rule is automatically deleted when the domain to which the rule applies is no longer associated with the Anti-DDoS Pro instance.

Notice:

For each Anti-DDoS Pro instance, the forwarding rules must use unique ports under the same protocol. If an Anti-DDoS Pro instance already has a forwarding rule that uses TCP port 80 or 443, a conflict error occurs when you try to add a rule that uses the same port and protocol.

Procedure

1. Log on to the Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Management > Port Settings.
3. On the Port Settings page, select an Anti-DDoS Pro instance and click Create Rule.



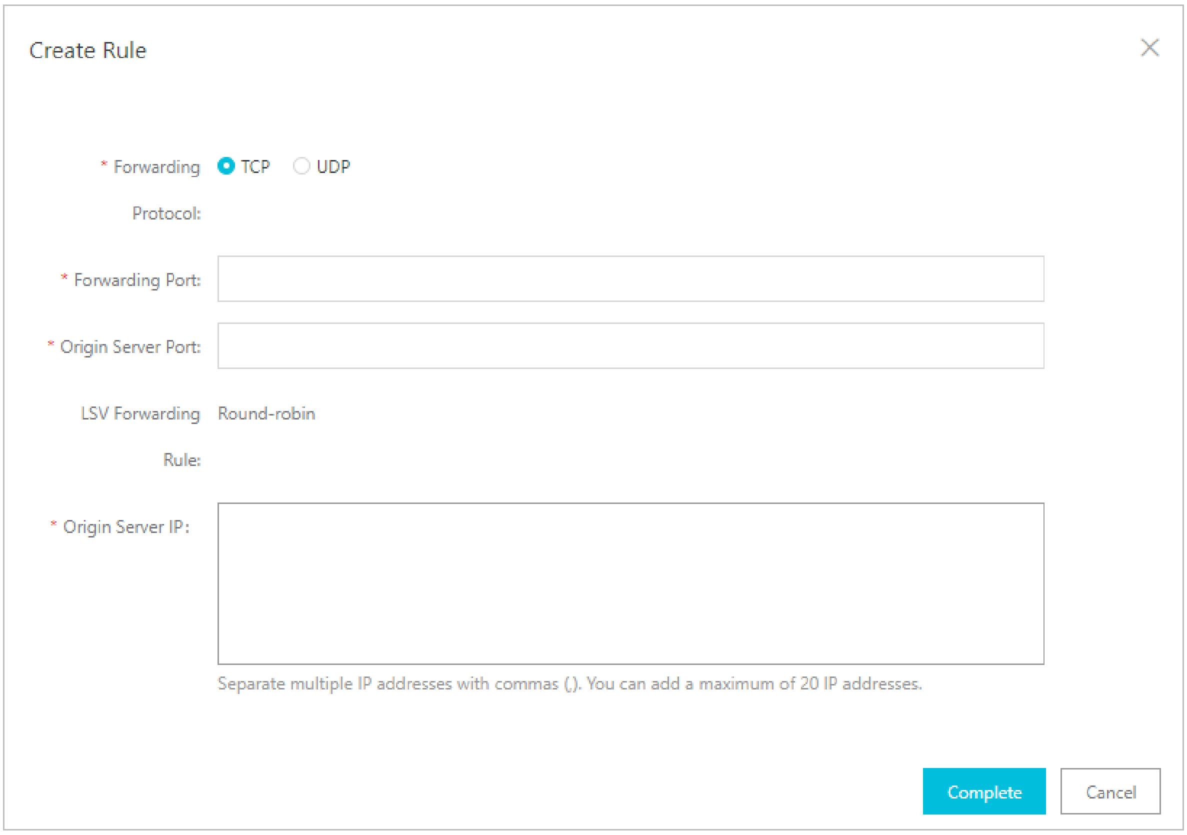
[redacted] [redacted]

Forwarding Protocol	Forwarding Port	Origin Server Port	LSV Forwarding Rule	Origin Server IP	Session Persistence	Health Check	Anti-DDoS Protection Policy	Actions
TCP	80	80	--	--	--	--	--	--
TCP	443	443	--	--	--	--	--	--

Total Items: 2, Items per Page 10

4. In the Create Rule dialog box, complete the configuration. The configuration details are as follows:

Item	Description
Forwarding Protocol	Specify the forwarding protocol used by the origin server. Valid values: TCP and UDP.
Forwarding Port	Specify the port that the Anti-DDoS Pro instance uses to forward traffic. Note: We recommend that you keep the forwarding port the same as the port of the origin server.
Origin Server Port	Specify the port of the origin server.
Origin Server IP	Specify the IP address of the origin server. Note: You can enter up to 20 IP addresses for load balancing.



Create Rule

* Forwarding Protocol: ● TCP ○ UDP

* Forwarding Port:

* Origin Server Port:

LSV Forwarding Rule: Round-robin

* Origin Server IP:

Separate multiple IP addresses with commas (,). You can add a maximum of 20 IP addresses.

5. Click Complete.

   After a forwarding rule is created, you can configure session persistence, health check, and anti-DDoS protection policies based on your needs. For more information, see #unique_47.

   You can also edit or delete the rule based on your needs.

6. Change the service IP to the IP address of your Anti-DDoS Pro instance. This forwards incoming traffic to your Anti-DDoS Pro instance.

   Before you forward incoming traffic to your Anti-DDoS Pro instance, we recommend that you verify that the forwarding rules are in effect. For more information about testing port forwarding, see Test forwarding rules.

   > ! Notice:
   >
   > If the forwarding rules are not in effect, your service may become unavailable to your users after you change the service IP address.

3.2.3 Step 2: Configure protection policies

After a port forwarding rule is added, you can configure the following protection policies based on your needs: session persistence, health check, and anti-DDoS protection.

Prerequisites

You have added port forwarding rules. For more information, see #unique_46.

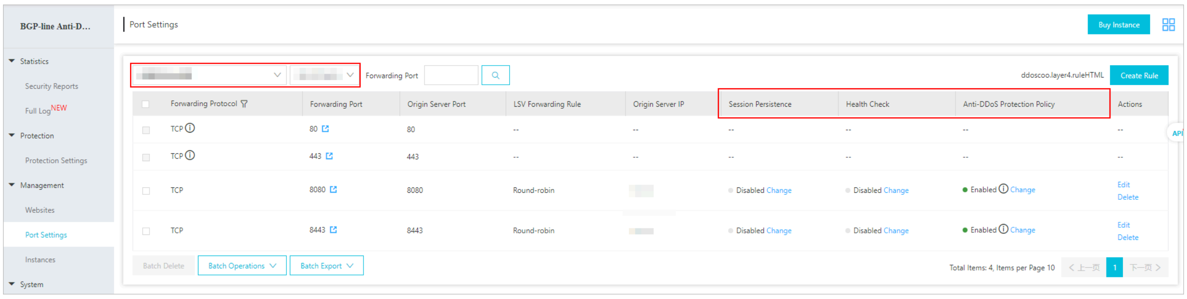
Context

You can configure protection policies based on different business scenarios. For example,

- you can configure a session persistence policy based on IP address to forward requests from the same IP address to the same origin server.
- You can configure a health check policy to check the availability of the origin server. The purpose of a health check is to ensure that requests from the client are not forwarded to servers where exceptions have occurred.
- Anti-DDoS protection policies are based on IPs and ports. To mitigate DDoS attacks , you can configure policies to set limits on parameters, such as the request rate or packet length.

Procedure

1. Log on to the Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Management > Port Settings.
3. On the Port Settings page, select an Anti-DDoS Pro instance.



□	Forwarding Protocol	Forwarding Port	Origin Server Port	LSV Forwarding Rule	Origin Server IP	Session Persistence	Health Check	Anti-DDoS Protection Policy	Actions
□	TCP ⓘ	80	80	--	--	--	--	--	--
□	TCP ⓘ	443	443	--	--	--	--	--	--
□	TCP	8080	8080	Round-robin	[redacted]	● Disabled Change	● Disabled Change	● Enabled ⓘ Change	Edit Delete
□	TCP	8443	8443	Round-robin	[redacted]	● Disabled Change	● Disabled Change	● Enabled ⓘ Change	Edit Delete

Total Items: 4, Items per Page 10

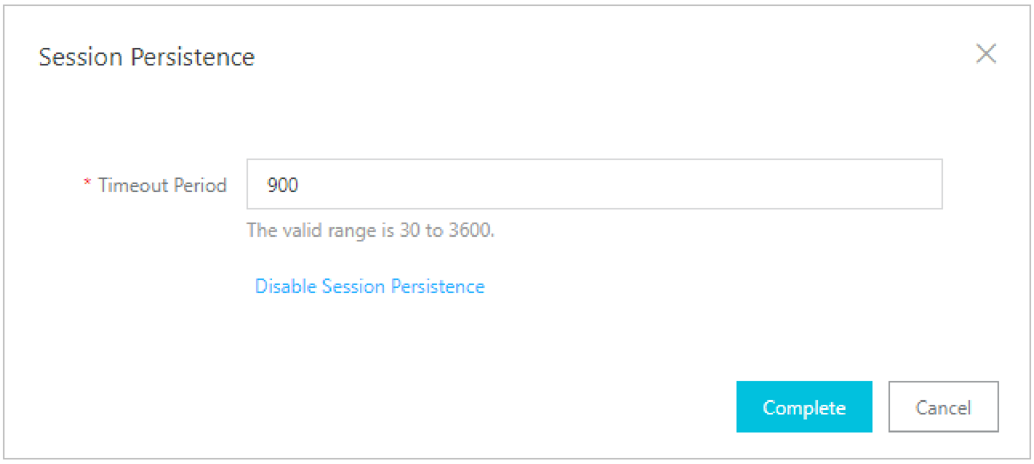
4. Select a port forwarding rule and configure the session persistence, health check, and anti-DDoS protection policies based on your needs.

- Session persistence

  a. Click Change in the Session Persistence column.

  b. In the Session Persistence dialog box, enable or disable session persistence based on your needs.

     - To enable session persistence, specify the Timeout Period and click Complete.
     - To disable session persistence, click Disable Session Persistence.



Session Persistence

* Timeout Period: 900

The valid range is 30 to 3600.

- Health check

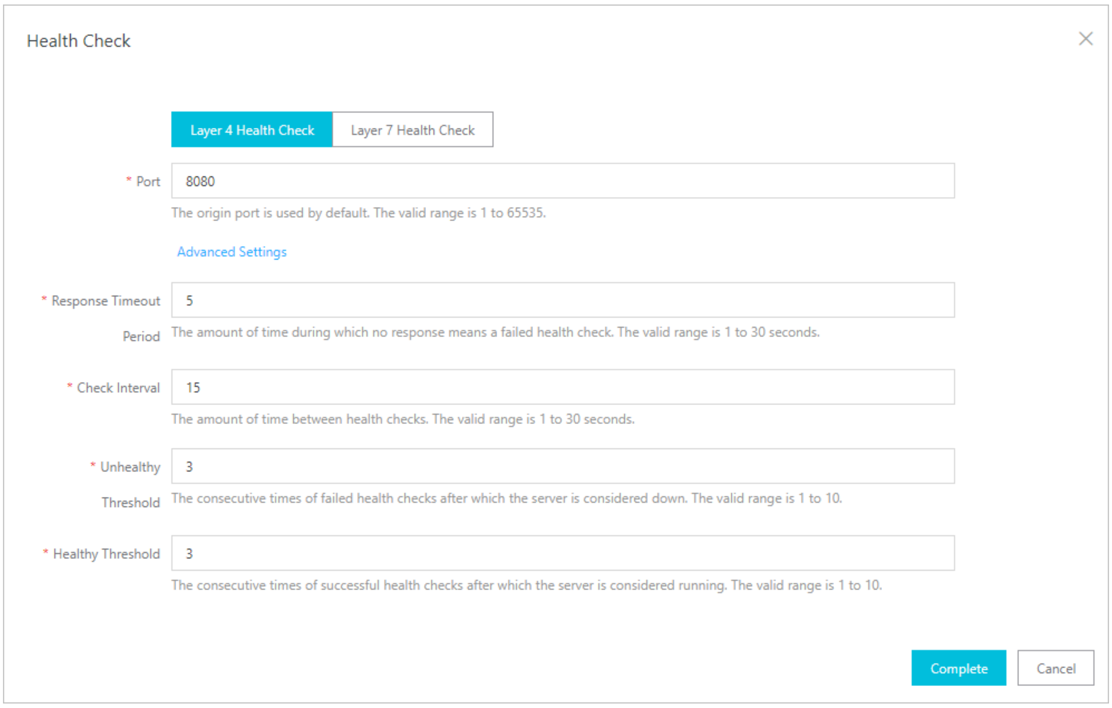
  a. Click Change in the Health Check column.

  b. In the Health Check dialog box, complete the configuration. The configuration details are as follows. You can click Advanced Settings to show or hide advanced settings.

Type	Item	Description
Layer 4 and layer 7	Port	The port that the health check service uses to communicate with the origin server. Default is the port of the origin server. Valid values: 1 to 65535.

Type	Item	Description
Layer 7	Domain, Path	This setting is only applicable to TCP rules. During a layer 7 health check, the Anti-DDoS Pro forwarding system sends an HTTP header request to the default homepage on the origin server. - If you do not want to use the default homepage for health checks, you must enter a domain and path of another page. - If you have limited the host header field to specific values, you only need to specify the URI for health checks. The domain parameter is optional and set to the IP address of the origin server by default.
Advanced setting	Response Timeout Period	The timeout period during a health check. Valid values: 1 to 30 seconds. If the origin server does not respond within the timeout period, it indicates that the health check failed.
Advanced setting	Check Interval	The time interval between two health checks. Valid values: 1 to 30 seconds . All scrubbing nodes in the Anti-DDoS Pro cluster perform health checks on origin servers at the specified interval independently and concurrently. Scrubbing nodes may perform health checks on the same origin server at different times. This is the reason that the health check records on the origin server do not indicate a check interval.
Advanced setting	Unhealthy Threshold	The number of consecutive failed health checks performed by the same scrubbing node that must occur before declaring an origin server unhealthy. Valid values: 1 to 10.

Type	Item	Description
Advanced setting	Healthy Threshold	The number of consecutive successful health checks performed by the same scrubbing node that must occur before declaring an origin server healthy. Valid values: 1 to 10.



Health Check

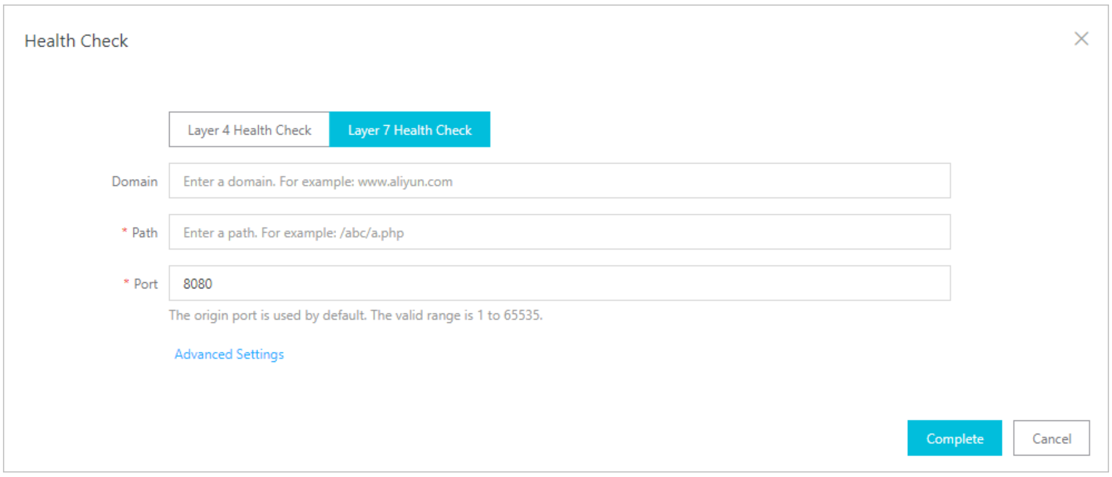
* Port: 8080
The origin port is used by default. The valid range is 1 to 65535.

* Response Timeout Period: 5
The amount of time during which no response means a failed health check. The valid range is 1 to 30 seconds.

* Check Interval: 15
The amount of time between health checks. The valid range is 1 to 30 seconds.

* Unhealthy Threshold: 3
The consecutive times of failed health checks after which the server is considered down. The valid range is 1 to 10.

* Healthy Threshold: 3
The consecutive times of successful health checks after which the server is considered running. The valid range is 1 to 10.



Health Check

Domain: Enter a domain. For example: www.aliyun.com

* Path: Enter a path. For example: /abc/a.php

* Port: 8080
The origin port is used by default. The valid range is 1 to 65535.

c. Click Complete to enable health check policies. To disable health check policies, click Change in the Health Check column. In the Health Check dialog box that appears, click Disable Health Check.

- Anti-DDoS protection policies

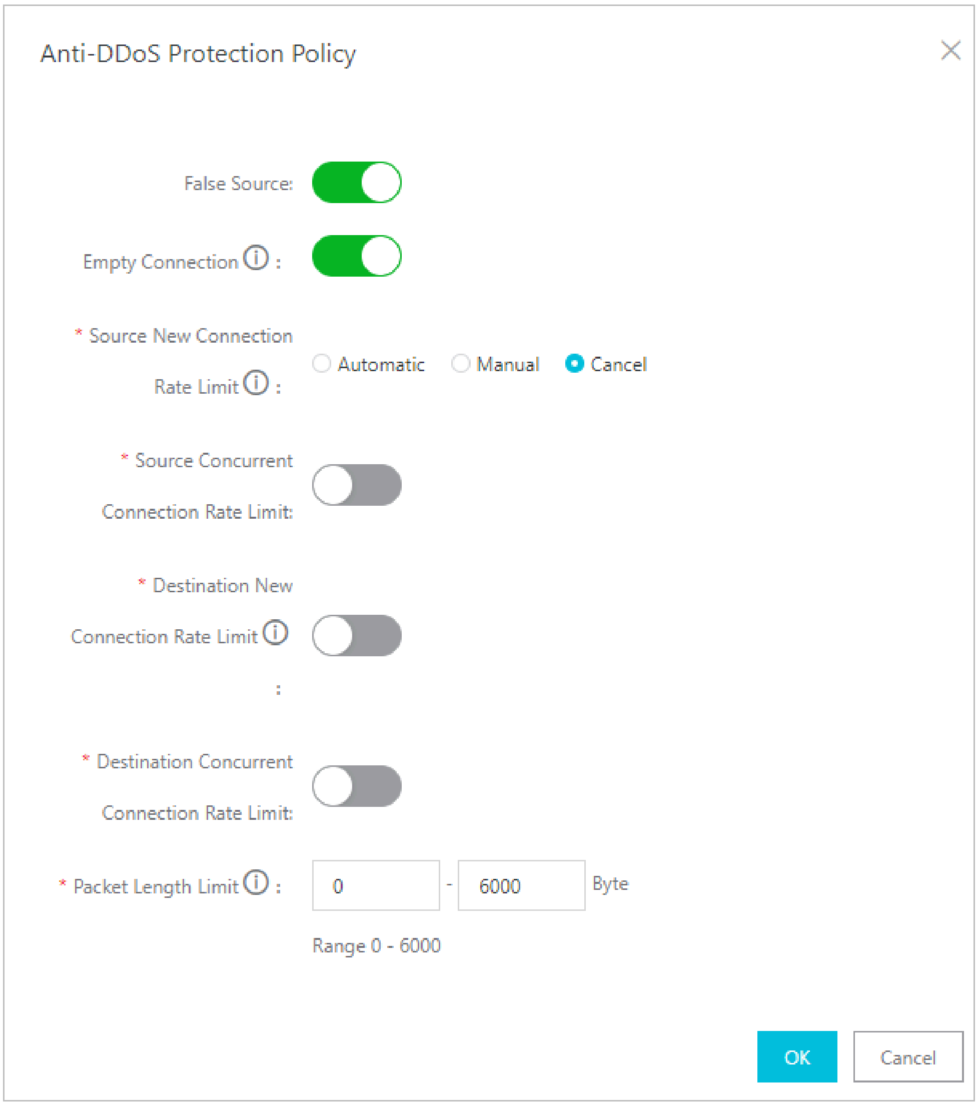
a. Click Change in the Anti-DDoS Protection Policy column.

b. In the Anti-DDoS Protection Policy dialog box, complete the configuration.

The configuration details are as follows:

Item	Description
False Source	Detects and blocks false source IPs. This setting is only applicable to TCP rules.
Empty Connection	Detects and blocks null session connections. This setting is only applicable to TCP rules. Note: To enable Empty Connections, you must enable False Source first.
Source New Connection Rate Limit	The maximum number of new connections per second from a single source IP. All new connections exceeding the limit are discarded. The actual limit on the new connection rate may be slightly different because the scrubbing nodes are deployed in clusters. The rate limit can be set to Automatic or Manual. Valid values: 1 to 50,000.
Source Concurrent Connection Rate Limit	The maximum number of concurrent connections from a single source IP. All connections exceeding the limit are discarded. When enabled, you must specify a rate limit. Valid values: 1 to 50,000.
Destination New Connection Rate Limit	The maximum number of new connections per second to a single destination IP and port. All new connections exceeding the limit are discarded. The actual limit on the new connection rate may be slightly different because the scrubbing nodes are deployed in clusters. When enabled, you must specify a rate limit. Valid values: 100 to 100,000.
Destination Concurrent Connection Rate Limit	The maximum number of concurrent connections to a single destination IP and port. All connections exceeding the limit are discarded. When enabled, you must specify a rate limit. Valid values: 1,000 to 1, 000,000.

Item	Description
Packet Length Limit	The limit on packet payload length. Unit: byte. All packets exceeding the limit are discarded. Valid values: 0 to 6,000.



Anti-DDoS Protection Policy

False Source: on

Empty Connection ⓘ : on

* Source New Connection Rate Limit ⓘ : ○ Automatic ○ Manual ● Cancel

* Source Concurrent Connection Rate Limit: off

* Destination New Connection Rate Limit ⓘ : off

* Destination Concurrent Connection Rate Limit: off

* Packet Length Limit ⓘ : 0 - 6000 Byte

Range 0 - 6000

c. Click OK.

3.2.4 Step 3: View traffic statistics

After you set up an Anti-DDoS Pro instance to protect your service, you can view the traffic that goes through your service in the Anti-DDoS Pro console.

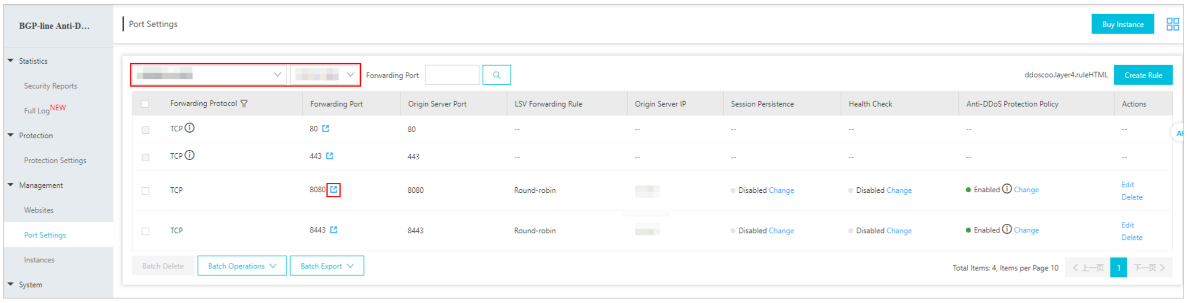
Prerequisites

You have added port forwarding rules. For more information, see #unique_46.

Procedure

1. Log on to the Anti-DDoS Pro console .

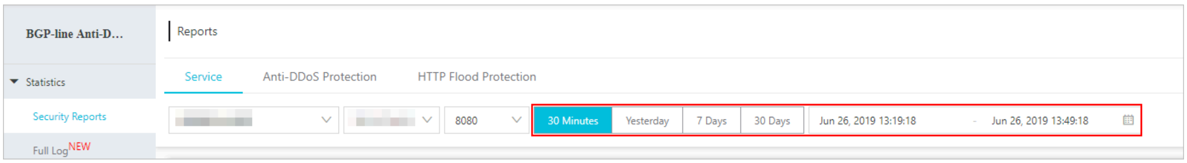
2. In the left-side navigation pane, choose Management > Port Settings.
3. On the Port Settings page, select an Anti-DDoS Pro instance.
4. Select a port forwarding rule and click the redirect icon in the Forwarding Port column.



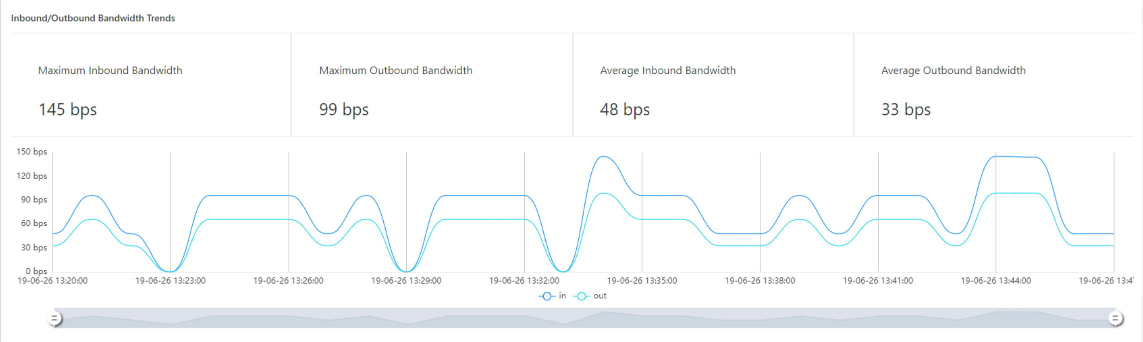
□	Forwarding Protocol	Forwarding Port	Origin Server Port	LSV Forwarding Rule	Origin Server IP	Session Persistence	Health Check	Anti-DDoS Protection Policy	Actions
□	TCP ⓘ	80	80	--	--	--	--	--	--
□	TCP ⓘ	443	443	--	--	--	--	--	--
□	TCP	8080	8080	Round-robin	[redacted]	Disabled Change	Disabled Change	● Enabled ⓘ Change	Edit Delete
□	TCP	8443	8443	Round-robin	[redacted]	Disabled Change	Disabled Change	● Enabled ⓘ Change	Edit Delete

Total Items: 4, Items per Page 10 < 上一页 1 下一页 >

5. On the Reports page, click the Service tab and select a time period to view traffic data. You can select from the following time periods: 30 minutes, yesterday, 7 days, 30 days, or a custom period within the last 30 days. The traffic data includes the following information:

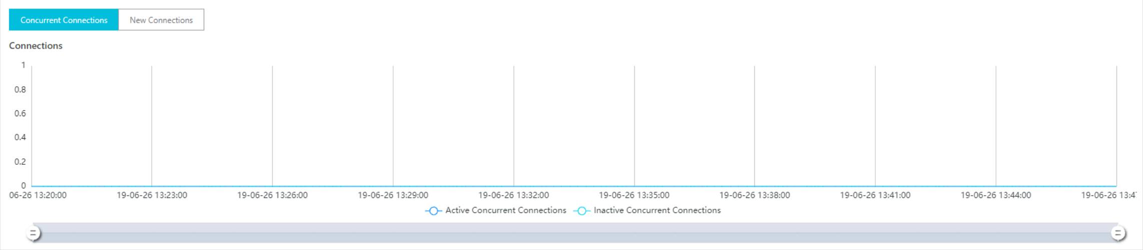


- Inbound/Outbound bandwidth: The maximum and average inbound/outbound bandwidth represented by curves.


Inbound/Outbound Bandwidth Trends

Maximum Inbound Bandwidth	Maximum Outbound Bandwidth	Average Inbound Bandwidth	Average Outbound Bandwidth
145 bps	99 bps	48 bps	33 bps

- Connections: The number of concurrent connections and new connections represented by curves.



4 User Guide

4.1 Website configuration

4.1.1 Custom non-standard ports

The standard package of Anti-DDoS Pro provides DDoS protection based on standard HTTP ports (80, 8080) and HTTPS ports (443, 8443). The enhanced package supports non-standard HTTP and HTTPS ports. However, the number of ports used by each protected domain is subject to a limit.

Note:

To add non-standard HTTP or HTTPS ports, make sure that your domain is associated with an Anti-DDoS Pro instance of the enhanced package.

Port limit

The domains associated with each Anti-DDoS Pro instance of the enhanced package can use a maximum of 10 ports.

Supported ports

Note:

Anti-DDoS Pro only protects supported HTTP and HTTPS ports. The service does not protect or forward traffic from non-supported ports. For example, if an Anti-DDoS Pro instance receives a packet on port 4444, the packet will be directly discarded.

- For HTTP and WebSocket, the enhanced package of Anti-DDoS Pro supports the following ports:

  80, 83, 84, 88, 89, 800, 808, 1000, 1090, 3333, 3501, 3601, 5000, 5222, 6001, 6666, 7000 , 7001, 7002, 7003, 7004, 7005, 7006, 7009, 7010, 7011, 7012, 7013, 7014, 7015, 7016 , 7018, 7019, 7020, 7021, 7022, 7023, 7024, 7025, 7026, 7060, 7070, 7081, 7082, 7083 , 7088, 7097, 7777, 7800, 8000, 8001, 8002, 8003, 8008, 8009, 8020, 8021, 8022, 8025 , 8026, 8077, 8078, 8080, 8081, 8082, 8083, 8084, 8085, 8086, 8087, 8088, 8089, 8090 , 8091, 8106, 8181, 8334, 8336, 8800, 8686, 8787, 8888, 8889, 8999, 9000, 9001, 9002, 9003, 9080, 9200, 9999, 10000, 10001, 10080, 12601, 86, 9021, 9023, 9027, 9037, 9081, 9082, 9201, 9205, 9207, 9208, 9209, 9210, 9211, 9212, 9213, 48800, 87, 97, 7510, 9180, 9898, 9908, 9916, 9918, 9919, 9928, 9929, 9939, 28080, and 33702.

- For HTTPS and WebSockets, the enhanced package of Anti-DDoS Pro supports the following ports:

  443, 4443, 5443, 6443, 7443, 8443, 9443, 8553, 8663, 9553, 9663, and 18980.

4.1.2 Use NS records to set up Anti-DDoS Pro

To set up Anti-DDoS Pro to protect your business, you must modify the DNS records of your domain to forward incoming traffic to your Anti-DDoS Pro instances. If your domain is managed by Alibaba Cloud DNS, you can enable NS Mode Access to automatically modify DNS records. Otherwise, you can only manually modify DNS records through your DNS provider. This topic describes how to enable NS Mode Access in the Anti-DDoS Pro console.

Prerequisites

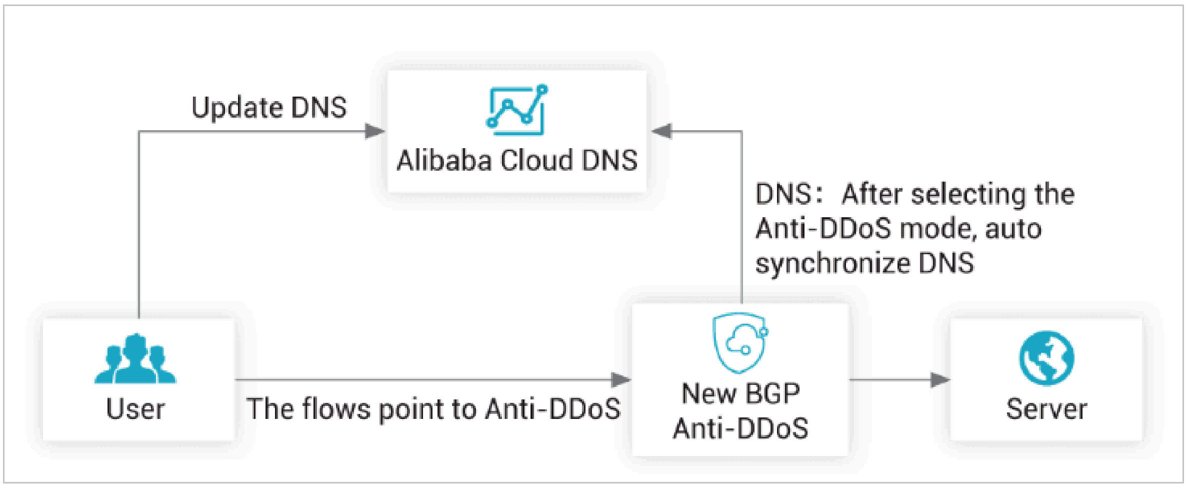
Your domain is managed under a paid version of Alibaba Cloud DNS. Otherwise, you cannot enable NS Mode Access. We recommend that you activate a paid version of Alibaba Cloud DNS.

Context

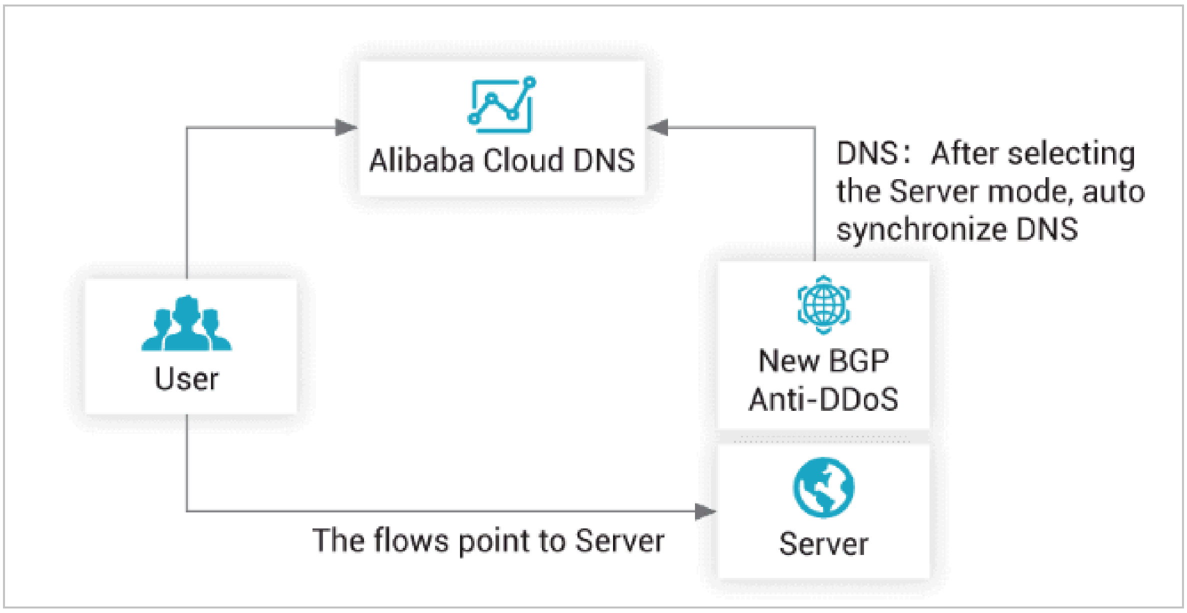
NS Records are nameserver records. You can use NS records to specify which DNS server is used to resolve your domain name.

Anti-DDoS Pro supports two modes when you enable NS Mode Access: Anti-DDoS Pro and Back-to-Origin.

- The Anti-DDoS Pro mode automatically modifies DNS records to forward incoming traffic to your Anti-DDoS Pro instances.


Update DNS
Alibaba Cloud DNS
DNS: After selecting the Anti-DDoS mode, auto synchronize DNS
User
The flows point to Anti-DDoS
New BGP Anti-DDoS
Server

- The Back-to-Origin mode automatically synchronizes DNS records between Anti-DDoS Pro instances and Alibaba Cloud DNS. Incoming traffic is still directed to your origin server.

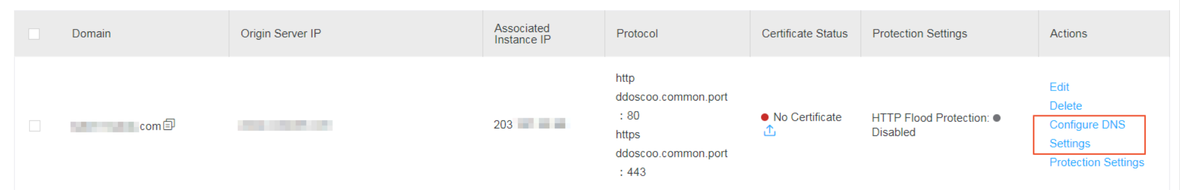

Alibaba Cloud DNS
DNS： After selecting the Server mode, auto synchronize DNS
User
New BGP Anti-DDoS
The flows point to Server
Server

We recommend that you use the following steps to enable NS Mode Access. If you cannot enable NS Mode Access, you must manually change the DNS records of your domain through your DNS provider.

To forward incoming traffic to Anti-DDoS Pro, you need to change A record values to the IP addresses of your Anti-DDoS Pro instances.

Procedure

1. Log on to the Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Management > Websites.
3. Select your domain and click Configure DNS Settings.

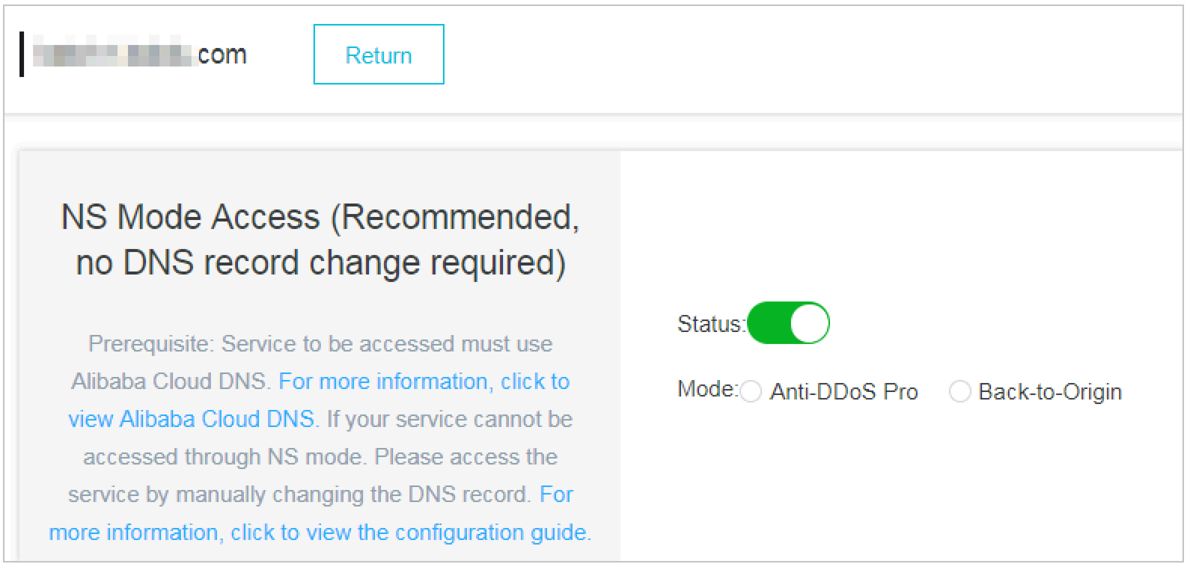


□	Domain	Origin Server IP	Associated Instance IP	Protocol	Certificate Status	Protection Settings	Actions
□	[redacted].com	[redacted]	203 [redacted]	http ddoscoo.common.port : 80 https ddoscoo.common.port : 443	● No Certificate	HTTP Flood Protection: ● Disabled	Edit Delete Configure DNS Settings Protection Settings

4. Enable NS Mode Access.

Note:

If you are not using a paid version of Alibaba Cloud DNS, an error message appears when you enable NS Mode Access.



[redacted].com

NS Mode Access (Recommended, no DNS record change required)

Prerequisite: Service to be accessed must use Alibaba Cloud DNS. For more information, click to view Alibaba Cloud DNS. If your service cannot be accessed through NS mode. Please access the service by manually changing the DNS record. For more information, click to view the configuration guide.

Status: ●

Mode: ○ Anti-DDoS Pro ○ Back-to-Origin

5. Select the `Anti - DDoS Pro` or `Back - to - Origin` mode based on your needs.
   - When the `Anti - DDoS Pro` mode is selected, Anti-DDoS Pro automatically modifies the DNS records at Alibaba Cloud DNS so that incoming traffic is directed to your Anti-DDoS Pro instances.
   - When the `Back - to - Origin` mode is selected, DNS records are automatically synchronized between Anti-DDoS Pro and Alibaba Cloud DNS. Incoming traffic is still directed to your origin server.
6. After the configuration is complete, you can use DNS testing tools to verify whether the configuration works as expected.

4.1.3 Upload SSL certificates

To use Anti-DDoS Pro to filter HTTPS traffic, you must select HTTPS in the domain settings and upload the SSL certificate. When your SSL certificate expires, you must update the certificate in the Anti-DDoS Pro console in a timely manner.

Prerequisites

- You have added your domain in the Anti-DDoS Pro console and your site supports HTTPS. For more information about adding domains, see #unique_22.

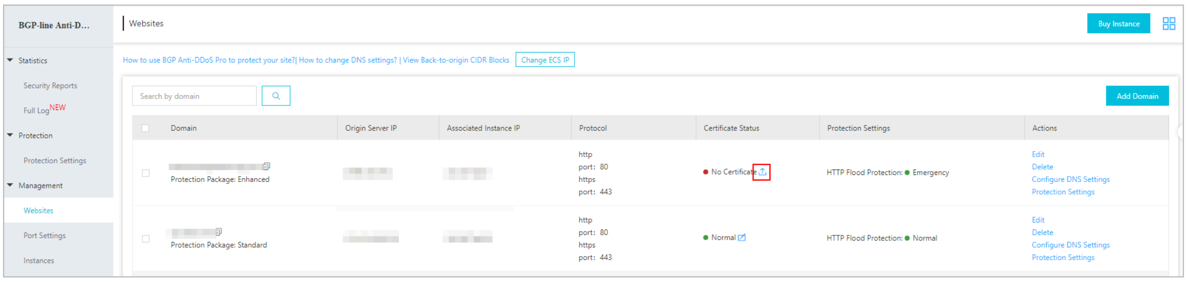
- You have prepared the certificate files.

  If you have uploaded your certificate files to Alibaba Cloud SSL Certificates Service, you can select the certificate directly. Otherwise, you need to prepare the certificate files for upload. Generally, the following files are required:

  - The public key file in CRT format or the certificate file in PEM format.
  - The private key file in KEY format.

Procedure

1. Log on to the Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Management > Websites.
3. In the Websites list, select your domain and click the upload icon in the Certificate Status column.

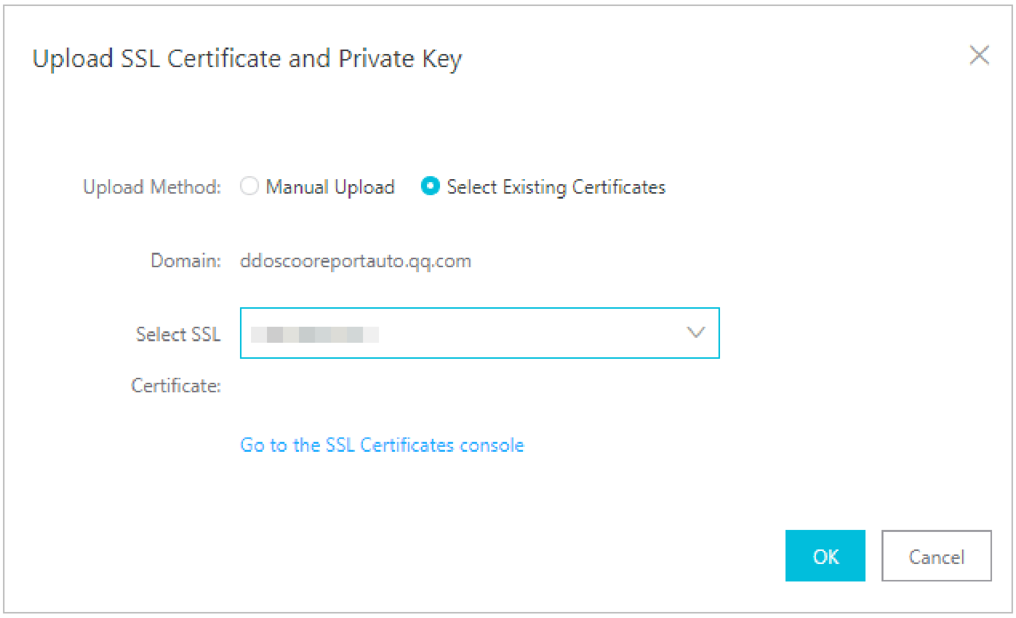


□	Domain	Origin Server IP	Associated Instance IP	Protocol	Certificate Status	Protection Settings	Actions
□	[redacted] Protection Package: Enhanced	[redacted]	[redacted]	http port: 80 https port: 443	● No Certificate	HTTP Flood Protection: ● Emergency	Edit Delete Configure DNS Settings Protection Settings
□	[redacted] Protection Package: Standard	[redacted]	[redacted]	http port: 80 https port: 443	● Normal	HTTP Flood Protection: ● Normal	Edit Delete Configure DNS Settings Protection Settings

4. In the Upload SSL Certificate and Private Key dialog box, select an Upload Method and specify the parameters. You can select from one of the following methods to upload your certificate.

    - Select Existing Certificates (Recommended)

      If you have uploaded your SSL certificate to Alibaba Cloud SSL Certificates Service, you can directly select an existing certificate for upload.



Upload SSL Certificate and Private Key

Upload Method: ○ Manual Upload ● Select Existing Certificates

Domain: ddoscooreportauto.qq.com

Select SSL Certificate: [redacted]

Go to the SSL Certificates console

      If your certificate is not hosted on SSL Certificates Service, you can click Go to the SSL Certificates console to upload your certificate first. For more information about uploading certificates to SSL Certificates Service, see #unique_58.

    - Manual Upload

      Enter a Certificate Name, and copy the contents of the certificate file and private key file to the Certificate File field and Private Key field respectively.

      Note:

      - For certificate files in common formats, such as PEM, CER, and CRT, you can use a text editor to open the file and copy its contents. For certificate files in other formats, such as PFX and P7B, you need to convert the file into PEM format first.

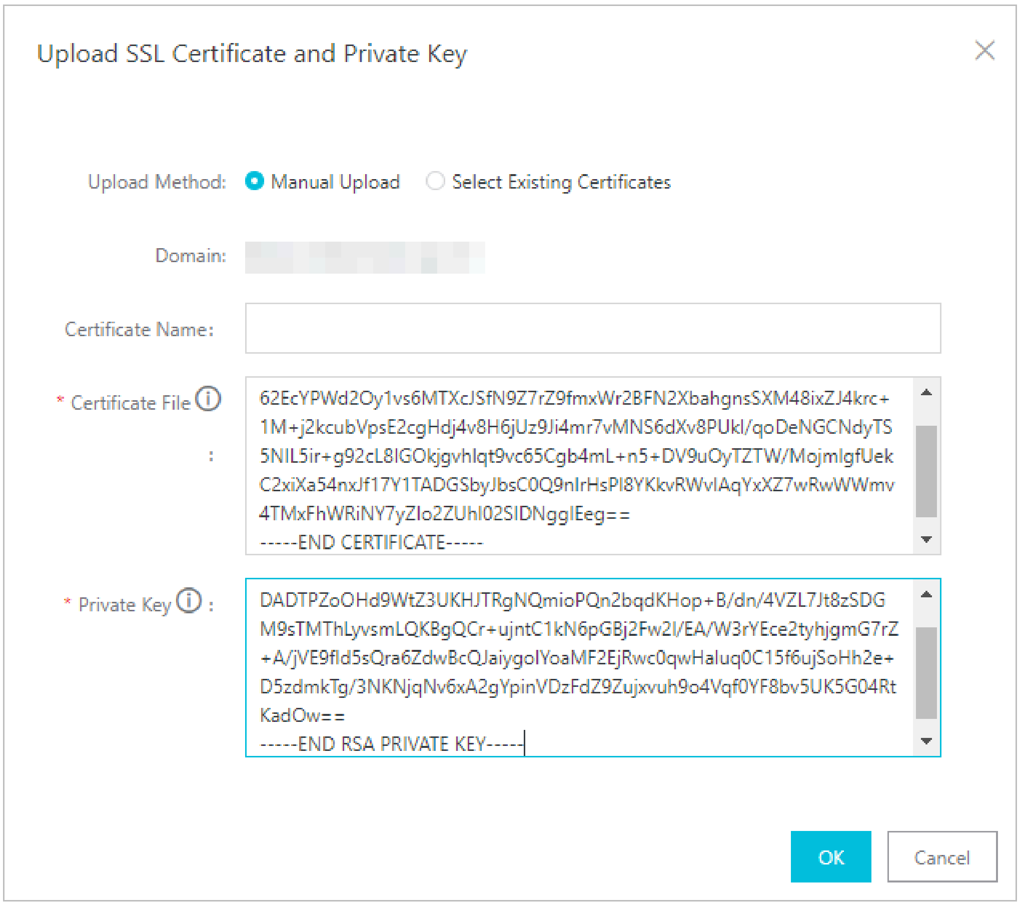
- If your SSL certificate includes multiple certificate files, such as a certificate chain, you need to combine the contents of multiple certificate files and paste them into the Certificate File field.

Certificate file example

```
----- BEGIN   CERTIFICAT  E -----
 xxxxxxxxxx  xxvs6MTXcJ  SfN9Z7rZ9f  mxWr2BFN2X  bahgnsSXM4
 8ixZJ4krc + 1M + j2kcubVpsE  2cgHdj4v8H  6jUz9Ji4mr  7vMNS6dXv8
 PUkl / qoDeNGCNdy  TS5NIL5ir + g92cL8IGOk  jgvhlqt9vc  65Cgb4mL +
 n5 + DV9uOyTZTW / MojmlgfUek  C2xiXa54nx  Jf17Y1TADG  SbyJbsC0Q9
 nIrHsPl8YK  kvRWvIAqYx  XZ7wRwWWmv  4TMxFhWRiN  Y7yZIo2ZUh
 l02SIDNggI  Eeg ==
----- END   CERTIFICAT  E -----
```

Private key file example

```
----- BEGIN   RSA   PRIVATE   KEY -----
 xxxxxxxxxx  xxtZ3UKHJT  RgNQmioPQn  2bqdKHop + B / dn /
 4VZL7Jt8zS  DGM9sTMThL  yvsmLQKBgQ  Cr + ujntC1kN6p  GBj2Fw2l
 / EA / W3rYEce2ty  hjgmG7rZ + A / jVE9fld5sQ  ra6ZdwBcQJ
 aiygoIYoaM  F2EjRwc0qw  Haluq0C15f  6ujSoHh2e + D5zdmkTg /
 3NKNjqNv6x  A2gYpinVDz  FdZ9Zujxvu  h9o4Vqf0YF  8bv5UK5G04
 RtKadOw ==
----- END   RSA   PRIVATE   KEY -----
```



Upload SSL Certificate and Private Key

Upload Method: ● Manual Upload ○ Select Existing Certificates

Domain: [redacted]

Certificate Name:

* Certificate File ⓘ :

```
62EcYPWd2Oy1vs6MTXcJSfN9Z7rZ9fmxWr2BFN2XbahgnsSXM48ixZJ4krc+
1M+j2kcubVpsE2cgHdj4v8H6jUz9Ji4mr7vMNS6dXv8PUkl/qoDeNGCNdyTS
5NIL5ir+g92cL8IGOkjgvhlqt9vc65Cgb4mL+n5+DV9uOyTZTW/MojmlgfUek
C2xiXa54nxJf17Y1TADGSbyJbsC0Q9nIrHsPl8YKkvRWvIAqYxXZ7wRwWWmv
4TMxFhWRiNY7yZIo2ZUhl02SIDNggIEeg==
-----END CERTIFICATE-----
```

* Private Key ⓘ :

```
DADTPZoOHd9WtZ3UKHJTRgNQmioPQn2bqdKHop+B/dn/4VZL7Jt8zSDG
M9sTMThLyvsmLQKBgQCr+ujntC1kN6pGBj2Fw2l/EA/W3rYEce2tyhjgmG7rZ
+A/jVE9fld5sQra6ZdwBcQJaiygoIYoaMF2EjRwc0qwHaluq0C15f6ujSoHh2e+
D5zdmkTg/3NKNjqNv6xA2gYpinVDzFdZ9Zujxvuh9o4Vqf0YF8bv5UK5G04Rt
KadOw==
-----END RSA PRIVATE KEY-----
```

5. Click OK.

Result

After the upload is complete, the certificate status is updated.

4.1.4 Custom TLS security settings

The new Anti-DDoS Pro supports custom TLS security settings and allows you to choose TLS protocols based on your business needs.

Prerequisites

- Your website has been associated with an Anti-DDoS Pro instance of the enhanced package.
- You have added your domain in the Anti-DDoS Pro console and your website supports HTTPS. For more information about adding domains, see #unique_22.
- You have uploaded the corresponding SSL certificates in the console. For more information, see #unique_29.

Context

If one of your service needs to implement an authentication mechanism that is compliant with PCI DSS 3.2, TLS 1.0 must be disabled. However, if your clients only support TLS 1.0, your service must also support TLS 1.0. Anti-DDoS Pro allows you to configure different TLS security settings for different services.

Procedure

1. Log on to the new Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Management > Websites.
3. Select a domain and click TLS Security Settings under the Certificate Status column.

4. In the TLS Security Settings dialog box, select TLS Versions and Cipher Suites based on your needs.

    - TLS Versions: Default is TLS 1.0 and later versions. This setting provides the best compatibility but a low security level. You can choose to support TLS 1.1 or TLS 1.2 and later versions based on your needs.
    - Cipher Suites:

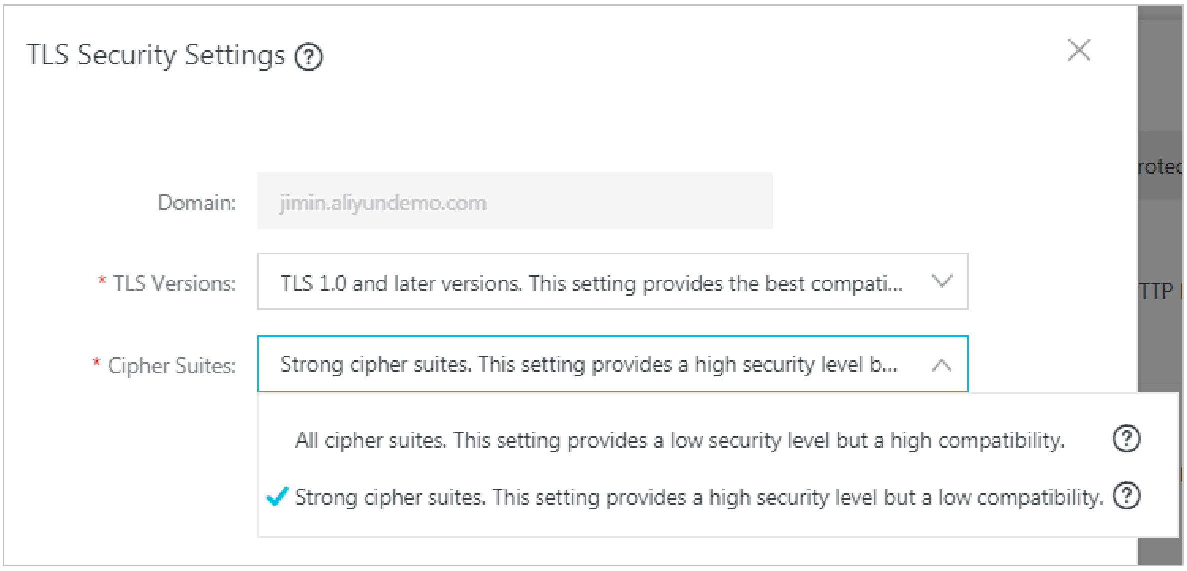
        - Strong cipher suites. This setting provides a high security level but a low compatibility.

          Supported strong cipher suites are as follows:

            - ECDHE-ECDSA-AES256-GCM-SHA384
            - ECDHE-RSA-AES256-GCM-SHA384
            - ECDHE-ECDSA-AES128-GCM-SHA256
            - ECDHE-RSA-AES128-GCM-SHA256
            - ECDHE-ECDSA-WITH-CHACHA20-POLY1305
            - ECDHE-RSA-WITH-CHACHA20-POLY1305
            - ECDHE-RSA-AES256-CBC-SHA
            - ECDHE-RSA-AES128-CBC-SHA
            - ECDHE-ECDSA-AES256-CBC-SHA
            - ECDHE-ECDSA-AES128-CBC-SHA
        - All cipher suites. This setting provides a low security level but a high compatibility.

          The following weak cipher suites are also supported in addition to above strong cipher suites.

            - RSA-AES256-CBC-SHA
            - RSA-AES128-CBC-SHA
            - ECDHE-RSA-3DES-EDE-CBC-SHA
            - RSA-3DES-EDE-CBC-SHA



TLS Security Settings

Domain: jimin.aliyundemo.com

* TLS Versions: TLS 1.0 and later versions. This setting provides the best compati...

* Cipher Suites: Strong cipher suites. This setting provides a high security level b...

All cipher suites. This setting provides a low security level but a high compatibility.

✓ Strong cipher suites. This setting provides a high security level but a low compatibility.

4.2 Add Anti-DDoS Pro back-to-origin CIDR blocks to the whitelist

When you use Anti-DDoS Pro to protect your site, we recommend that you add back-to-origin CIDR blocks to the whitelist so that traffic from Anti-DDoS Pro is not mistakenly blocked by security software on your origin server.

Context

After you set up Anti-DDoS Pro to protect your site, all traffic to your site is directed to Anti-DDoS Pro first, which filters out malicious traffic and then forwards the traffic back to the origin server. The process whereby an Anti-DDoS Pro instance forwards traffic back to the origin server is called back-to-origin.

Anti-DDoS Pro acts as a reverse proxy and supports Full NAT mode.

Before Anti-DDoS Pro is used to protect the origin server, client IP addresses are widely distributed. The number of requests from each client IP address is relatively small under normal circumstances.

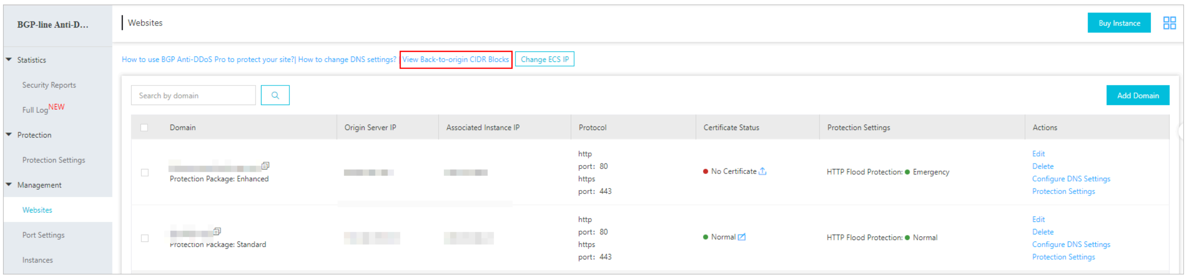
After Anti-DDoS Pro is used, a limited number of back-to-origin CIDR blocks are used to forward traffic to the origin server. For the origin server, all incoming requests originate from these back-to-origin CIDR blocks. The number of requests from each back-to-origin IP address can be quite large, which makes it appear that these IP addresses are attacking the origin server. If other DDoS protection policies are configured on the origin server, these back-to-origin CIDR blocks may be blocked or subject to bandwidth limits.

For example, the most commonly found 502 error indicates that when Anti-DDoS Pro forwards requests to the origin server, the server is not responding. The reason may be that the back-to-origin IP address is blocked by the firewall on the origin server.

Therefore, we recommend that you disable the firewall and other security software on the origin server after you configure forwarding rules. This ensures that Anti-DDoS back-to-origin CIDR blocks are not affected by the protection policies on the origin server. Alternatively, you can use the following steps to find the back-to-origin CIDR blocks used by Anti-DDoS Pro and add them to the whitelist of the security software on the origin server. We recommend that you create security groups or use whitelists to protect your origin server. For more information, see Protect origin servers.

Procedure

1. Log on to the Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Management > Websites.
3. On the Websites page, click View Back-to-origin CIDR Blocks on the top of the page.



□	Domain	Origin Server IP	Associated Instance IP	Protocol	Certificate Status	Protection Settings	Actions
□	[redacted] Protection Package: Enhanced	[redacted]	[redacted]	http port: 80 https port: 443	● No Certificate	HTTP Flood Protection: ● Emergency	Edit Delete Configure DNS Settings Protection Settings
□	[redacted] Protection Package: Standard	[redacted]	[redacted]	http port: 80 https port: 443	● Normal	HTTP Flood Protection: ● Normal	Edit Delete Configure DNS Settings Protection Settings

4. In the Back-to-origin CIDR Block dialog box, copy the back-to-origin CIDR blocks used by Anti-DDoS Pro.

Back-to-origin CIDR Block

5. Modify the whitelist of the security software on your origin server and add these back-to-origin CIDR blocks to the whitelist.

4.3 Configure layer 4 protection

4.3.1 Configure layer 4 anti-DDoS protection settings

Anti-DDoS Pro supports protection against layer 4 DDoS attacks and provides multiple protection settings to safeguard the security of your business.

Context

Anti-DDoS Pro provides protection against DDoS attacks based on `IPs and ports` when no domain names are provided. You can set limits on parameters such as the request rate, and packet length to mitigate DDoS attacks.

Anti-DDoS Pro supports the following anti-DDoS protection settings for you to choose from:

Note:

The New Connection Speed Limits for Source IP setting supports the automatic protection mode. If the automatic protection mode is selected, Anti-DDoS Pro dynamically calculates the limit on the number of new connections per second from a single source IP. If the manual mode is selected, you need to manually specify the limit on the new connection rate.

Settings	Description
False Sources	Detects and blocks false source IPs. This setting is only applicable to TCP rules.
Null Session Connections	Detects and blocks null session connections. This setting is only applicable to TCP rules.
New Connection Speed Limits for Source IP	The maximum number of new connections per second from a single source IP. All new connections exceeding the limit are discarded. The actual limit on the new connection rate may be slightly different because the protection servers are deployed in clusters.
Concurrent Connection Speed Limits for Source IP	The maximum number of concurrent connections from a single source IP. All connections exceeding the limit are discarded.
New Connection Speed Limits for Destination IP	The maximum number of new connections per second to a single destination IP and port. All new connections exceeding the limit are discarded. The actual limit on the new connection rate may be slightly different because the protection servers are deployed in clusters.
Concurrent Connection Speed Limits for Destination IP	The maximum number of concurrent connections to a single destination IP and port. All connections exceeding the limit are discarded.
Packet Length Filtering	The limit on the payload size of a packet. Unit: byte. All packets exceeding the size limit are discarded.

You can configure anti-DDoS protection settings for specific ports on specific IP addresses.

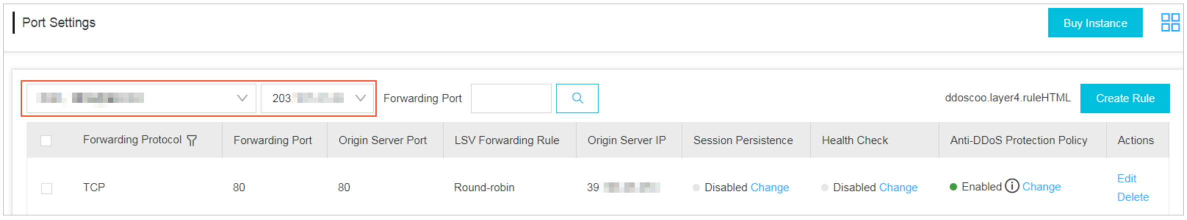
Note:

Anti-DDoS protection settings take effect for single ports.

Procedure

1. Log on to the Anti-DDoS Pro console.

2. In the left-side navigation pane, choose Management > Port Settings, select an Anti-DDoS Pro instance and forwarding rule, and click Configure under the Anti-DDoS Protection Policy column.

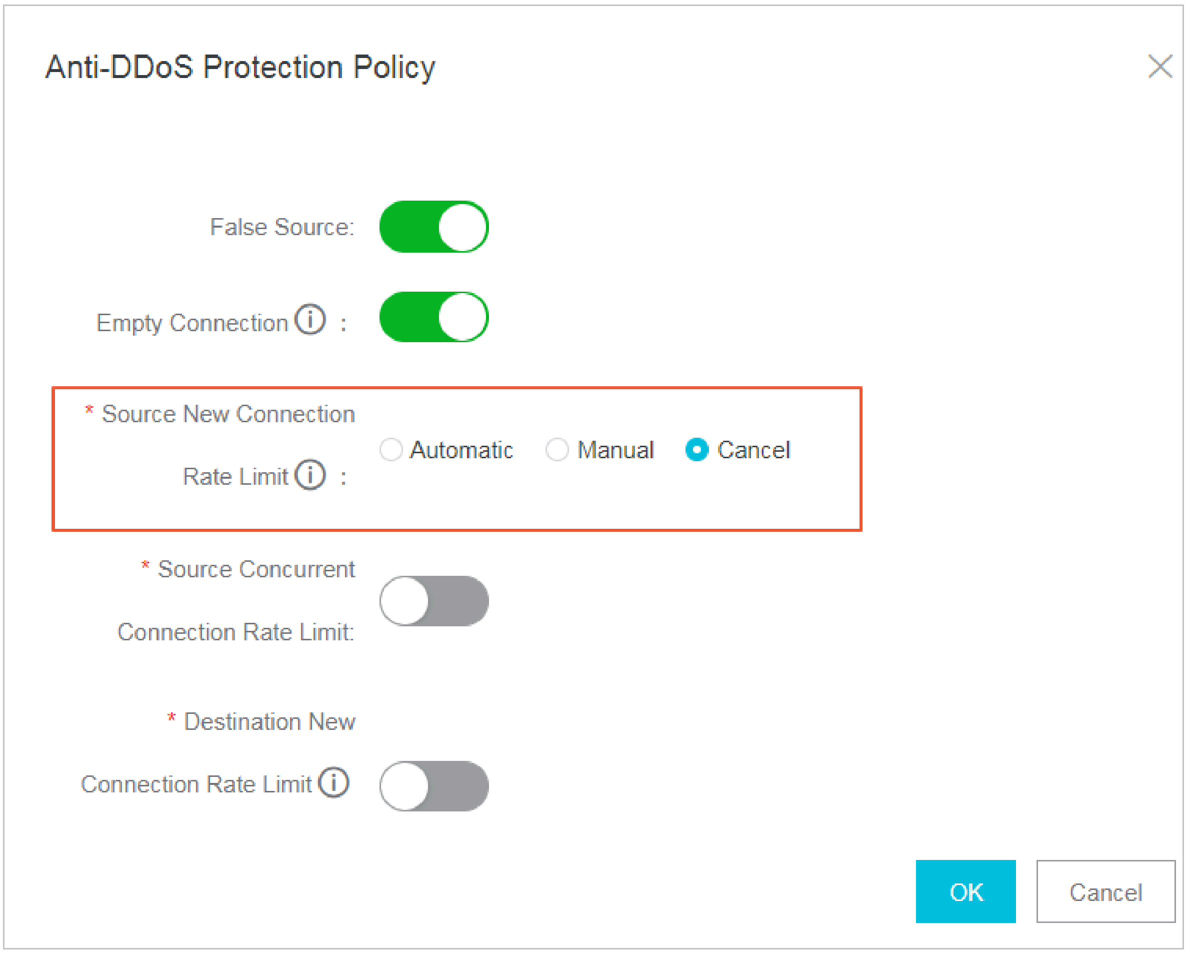


Port Settings

[redacted] | 203.[redacted] | Forwarding Port | ddoscoo.layer4.ruleHTML

□	Forwarding Protocol	Forwarding Port	Origin Server Port	LSV Forwarding Rule	Origin Server IP	Session Persistence	Health Check	Anti-DDoS Protection Policy	Actions
□	TCP	80	80	Round-robin	39[redacted]	Disabled Change	Disabled Change	● Enabled ⓘ Change	Edit Delete

3. In the Anti-DDoS Protection Policy dialog box, configure Anti-DDoS protection settings for the selected IP and port.



Anti-DDoS Protection Policy

False Source: On

Empty Connection ⓘ : On

* Source New Connection Rate Limit ⓘ : ○ Automatic ○ Manual ● Cancel

* Source Concurrent Connection Rate Limit: Off

* Destination New Connection Rate Limit ⓘ Off

4.3.2 Configure health check rules

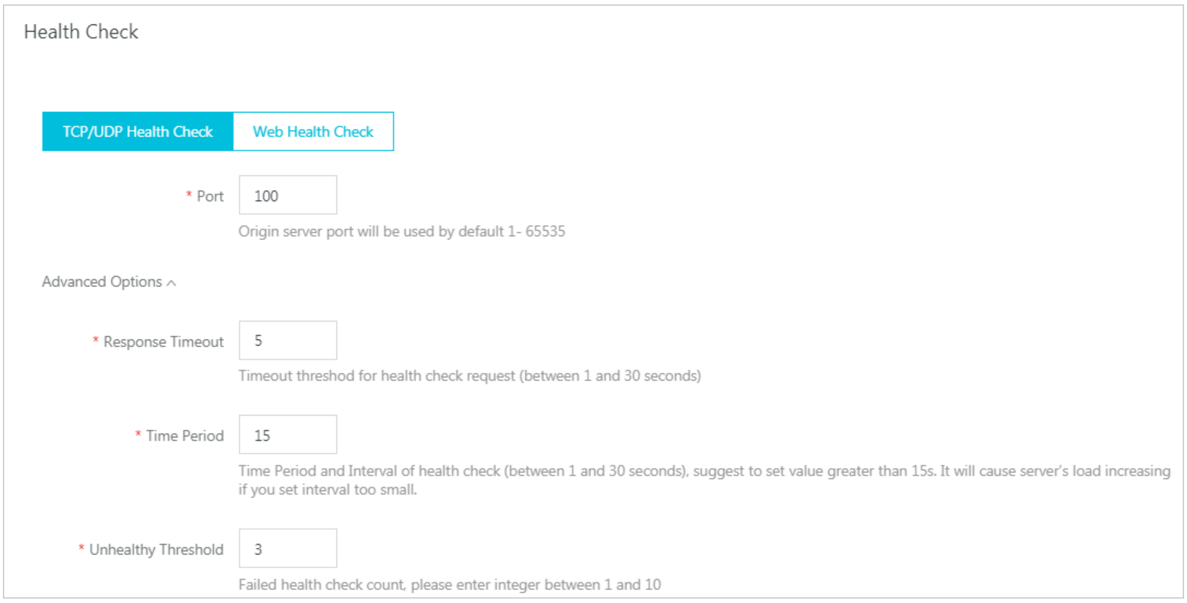
Anti-DDoS Pro provides the health check feature.

Anti-DDoS Pro provides protection against DDoS attacks based on `source IPs and ports` when no domain name is provided. The health check feature is available to all source IPs and ports that are associated with Anti-DDoS Pro instances. You can configure health check rules for specific IPs and ports.

Procedure

1. Log on to the new Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Management > Port Settings.
3. Select an Anti-DDoS Pro instance.
4. Select a forwarding rule and click Change under the Health Check column.

> Note:
> The health check feature is disabled by default. If the selected forwarding rule is based on the TCP protocol, you can configure layer 4 or layer 7 health check settings.



Health Check

* Port 100

Origin server port will be used by default 1- 65535

Advanced Options ^

* Response Timeout 5

Timeout threshold for health check request (between 1 and 30 seconds)

* Time Period 15

Time Period and Interval of health check (between 1 and 30 seconds), suggest to set value greater than 15s. It will cause server's load increasing if you set interval too small.

* Unhealthy Threshold 3

Failed health check count, please enter integer between 1 and 10

Configuration items

> Note:
> We recommend that you use the default values for advanced settings.

Table 4-1: Layer 4 health check

Parameter	Description
Port	The port that the health check service uses to communicate with the origin server. Default is the port of the origin server.
Advanced settings	

Parameter	Description
Response Timeout Period	The timeout period during a health check. If the origin server does not respond within the timeout period, it indicates that the health check failed.
Check Interval	The time interval between two consecutive health checks. All scrubbing nodes in the Anti-DDoS Pro cluster perform health checks on origin servers at the specified interval independently and concurrently. Scrubbing nodes may perform health checks on the same origin server at different times. This is the reason that the health check records on the origin server do not indicate a check interval.
Unhealthy Threshold	The number of consecutive failed health checks performed by the same scrubbing node that must occur before declaring an origin server unhealthy.
Healthy Threshold	The number of consecutive successful health checks performed by the same scrubbing node that must occur before declaring an origin server healthy.

Table 4-2: Layer 7 health check

Parameter	Description
Domain and path (HTTP only)	During a layer 7 health check, the Anti-DDoS Pro forwarding system sends an HTTP HEAD request to the default homepage on the origin server. · If you do not want to use the default homepage for health checks, you must enter a domain and path of another page. · If you have limited the host header field to specific values, you only need to specify the URI for health checks. The domain parameter is optional and set to the IP address of the origin server by default.
Port	The port that the health check service uses to communicat e with the origin server. Default is the port of the origin server.
Advanced settings	
Response Timeout Period	The timeout period during a health check. If the origin server does not respond within the timeout period, it indicates that the health check failed.

Parameter	Description
Check Interval	The time interval between two consecutive health checks. All scrubbing nodes in the Anti-DDoS Pro cluster perform health checks on origin servers at the specified interval independently and concurrently. Scrubbing nodes may perform health checks on the same origin server at different times. This is the reason that the health check records on the origin server do not indicate a check interval.
Unhealthy Threshold	The number of consecutive failed health checks performed by the same scrubbing node that must occur before declaring an origin server unhealthy.
Healthy Threshold	The number of consecutive successful health checks performed by the same scrubbing node that must occur before declaring an origin server healthy.

4.3.3 Configure session persistence rules

Anti-DDoS Pro provides the session persistence feature, which supports forwarding requests from the same IP address to the same back-end server within a specific timeout period.

Context

Anti-DDoS Pro provides protection against DDoS attacks based on `source IPs and ports` when no domain name is provided. The session persistence feature is available to all source IPs and ports that are associated with Anti-DDoS Pro instances.

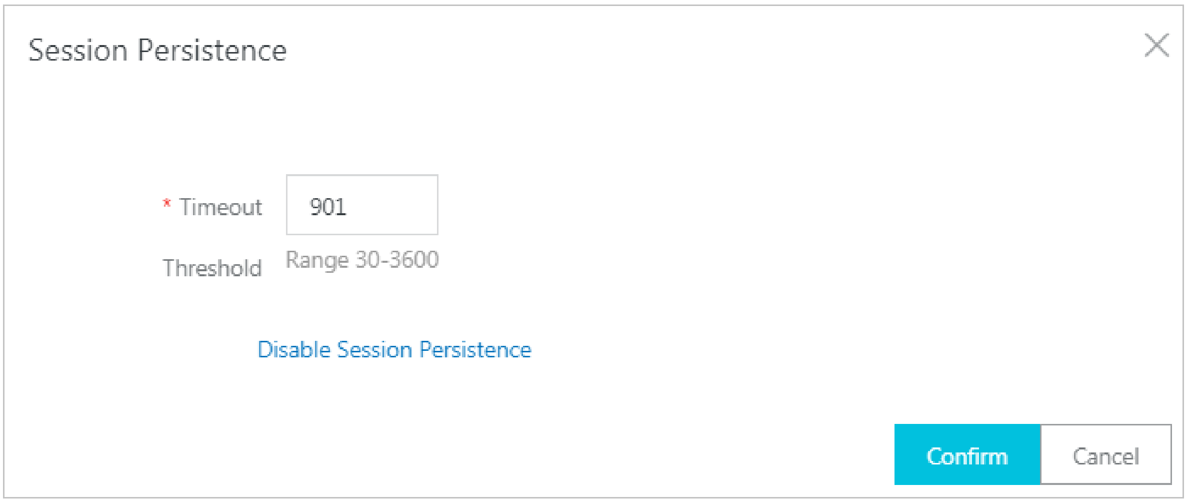
Procedure

1. Log on to the new Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Management > Port Settings.
3. Select an Anti-DDoS Pro instance and its IP address.
4. Select a forwarding rule and click Change under the Session Persistence column.

> Note:
> The session persistence setting takes effect for individual ports.

5. In the Session Persistence dialog box, specify a Timeout Threshold and click Comfirm.

Note:
You can also click Disable Session Persistence to disable this feature.



Session Persistence

* Timeout Threshold: 901

Range 30-3600

4.3.4 Configure layer 4 smart defense settings

Anti-DDoS Pro provides the smart defense feature to help you defend against layer 4 DDoS attacks. This feature supports three modes for you to choose from. You can change the smart defense mode based on your needs. Once changed, the selected mode takes effect within a few minutes.

The smart defense feature supports the following modes:

- Low: This mode automatically identifies and scrubs traffic that displays common attack patterns based on historical traffic patterns and years of experience defending against Web attacks. The mode is based on an algorithm that automatically identifies malicious IP addresses and adds them to the blacklist. This mode may not be able to block all layer 4 floods but has a low false positive rate.
- Normal: This mode automatically identifies and scrubs traffic that displays common and likely attack patterns based on historical traffic patterns and years of experience defending against Web attacks. We recommend that you use this mode in most situations as it maintains an optimal balance between protection and false positives.
- Strict: This mode provides the most rigorous protection against ongoing attacks based on historical traffic patterns and years of experience defending against Web attacks. The mode may cause false positives.

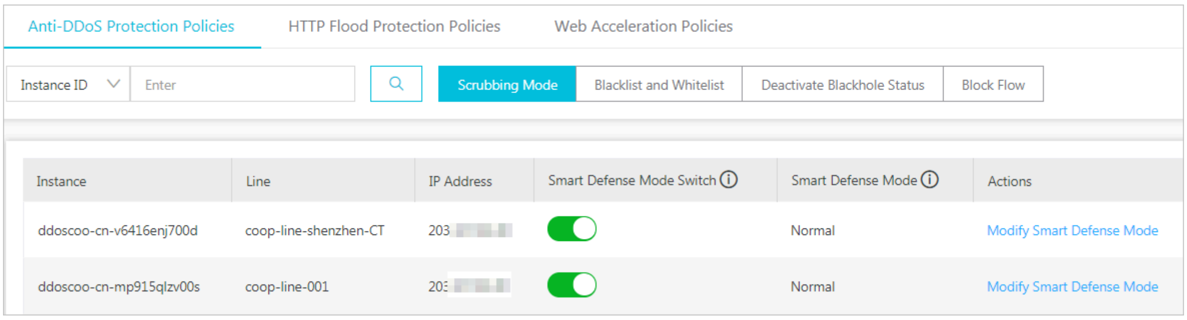
The normal mode is enabled by default. Smart defense bases its decisions on historical traffic pattern data. If this is the first time that you have set up Anti-DDoS Pro to protect your business, it takes Anti-DDoS Pro about three days to learn your traffic pattern in order to provide the best protection.

You can view or delete the IP addresses that are automatically added to the blacklist by smart defense. You can also manually add other malicious IP addresses to the blacklist. Meanwhile, you can add specific IP addresses to the whitelist so that Anti-DDoS Pro allows access to these IP addresses without further inspection.

Change smart defense modes

After you buy an Anti-DDoS Pro instance, the smart defense feature is enabled and the normal mode is used by default. You can change smart defense modes based on your needs.

1. Log on to the Anti-DDoS Pro console.
2. Choose Protection > Protection Settings > Anti-DDoS Protection Policies > Scrubbing Mode, select an Anti-DDoS Pro instance, and click Modify Smart Defense Mode.


Anti-DDoS Protection Policies
HTTP Flood Protection Policies
Web Acceleration Policies
Instance ID
Enter
Scrubbing Mode
Blacklist and Whitelist
Deactivate Blackhole Status
Block Flow

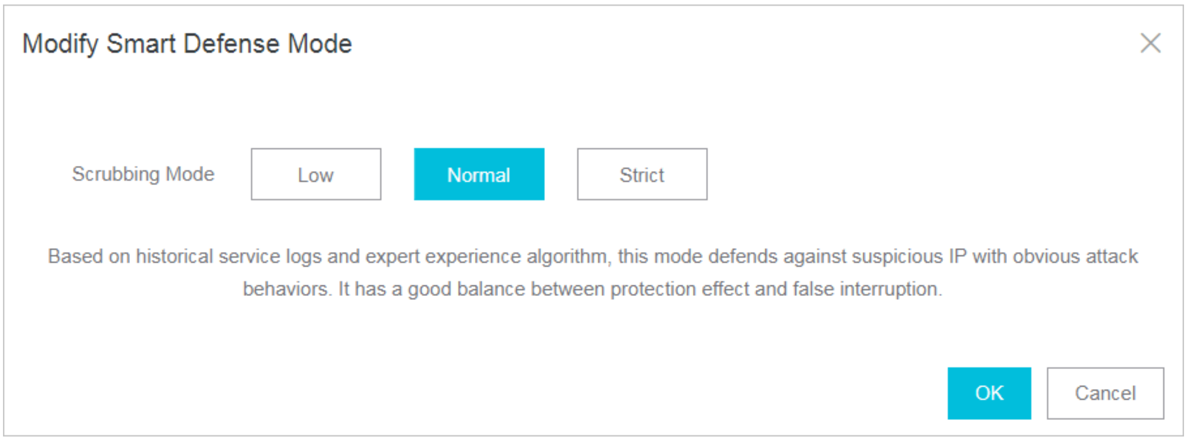
Instance	Line	IP Address	Smart Defense Mode Switch ⓘ	Smart Defense Mode ⓘ	Actions
ddoscoo-cn-v6416enj700d	coop-line-shenzhen-CT	203 [redacted]	●	Normal	Modify Smart Defense Mode
ddoscoo-cn-mp915qlzv00s	coop-line-001	20 [redacted]	●	Normal	Modify Smart Defense Mode

Note:
The smart defense feature is enabled by default. You can click the switch to disable smart defense.

3. Change the smart defense mode based on your needs and click OK.

Note:

The selected mode takes effect within a few minutes.


Modify Smart Defense Mode

Scrubbing Mode: Low | **Normal** | Strict

Based on historical service logs and expert experience algorithm, this mode defends against suspicious IP with obvious attack behaviors. It has a good balance between protection effect and false interruption.

Manage the blacklist and whitelist

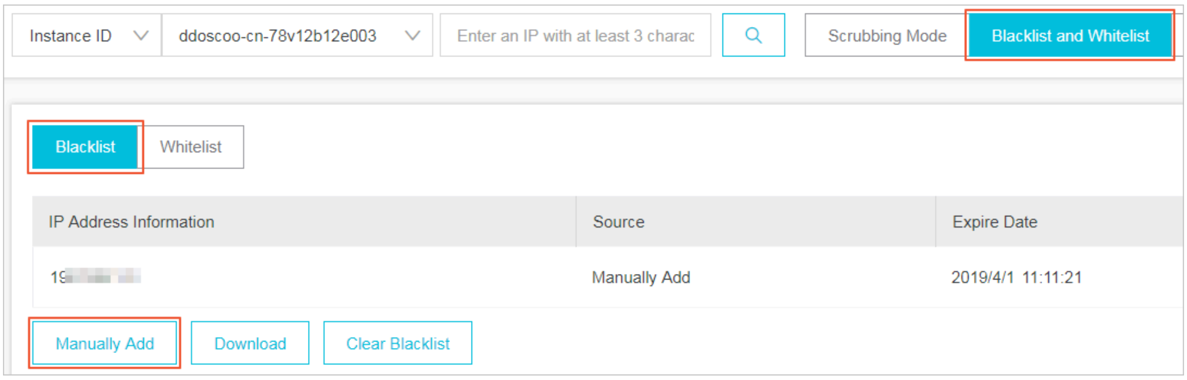
You can view and manage the IP addresses that are added to the blacklist by smart defense. You can also add specific IP addresses to the whitelist so that Anti-DDoS Pro allows access to these IP addresses without further inspection.

- The blacklist

  Choose Protection > Protection Settings > Anti-DDoS Protection Policies > Blacklist and Whitelist, click Blacklist, and select Anti-DDoS Pro to view and manage all IP addresses in the whitelist under the instance.

  Note:
  Each IP address in the blacklist has an expiration time. An IP address is automatically removed from the blacklist when its expiration time is reached. Smart defense automatically specifies an expiration time when it adds an IP address to the blacklist. The expiration time ranges from 5 minutes to 1 hour. If a blacklisted IP address continuously sends malicious requests before the expiration time is reached, Anti-DDoS Pro automatically extends the expiration

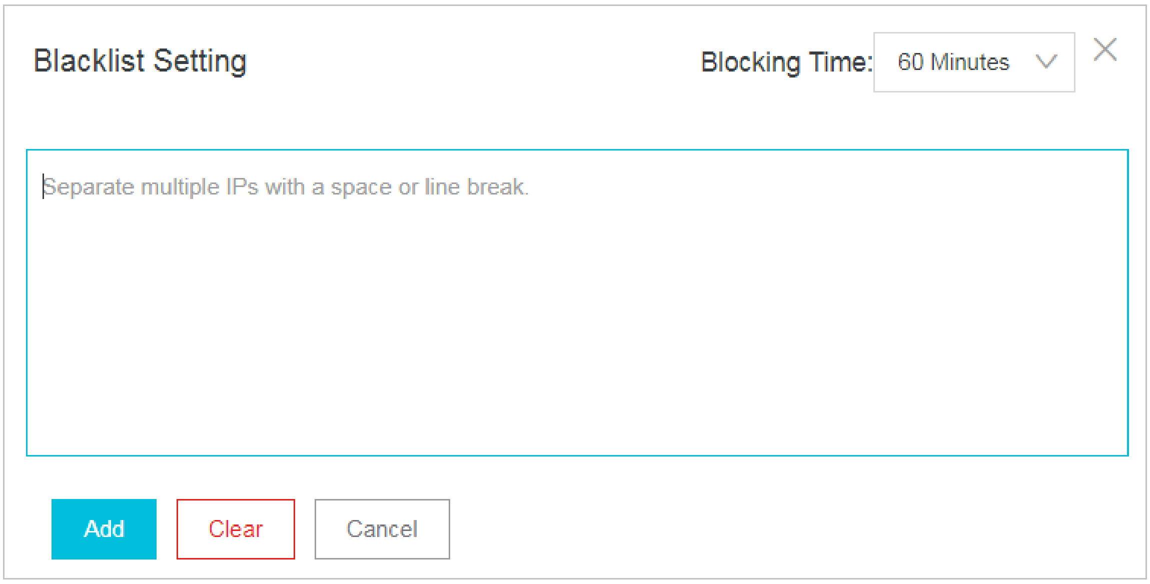
time. You also need to specify an expiration time when you manually add an IP address to the blacklist.



IP Address Information	Source	Expire Date
19[redacted]	Manually Add	2019/4/1 11:11:21

You can perform the following operations on the blacklist:

- Search by keyword: Enter a keyword in the search box and click the search icon to search for specific IP addresses in the blacklist.
- Download: Click Download to download all blacklisted IP addresses to your local computer.
- Clear Blacklist: Click Clear Blacklist to remove all blacklisted IP addresses.
- Manually Add: Click Manually Add to manually add IP addresses to the blacklist. You need to specify an expiration time for each IP address.


Blacklist Setting

Blocking Time: 60 Minutes

Separate multiple IPs with a space or line break.

Note:

You can manually add up to 2,000 IP addresses to the blacklist.

- The whitelist

  Choose Protection > Protection Settings > Anti-DDoS Protection Policies > Blacklist and Whitelist, click Whitelist, and select an Anti-DDoS Pro instance to manage the whitelist under the instance.

  > Note:
  > The IP addresses in the whitelist can only be removed manually. The whitelist has a higher priority over the blacklist. If an IP address is already listed in the whitelist, this IP address cannot be added to the blacklist.

  You can perform the following operations on the whitelist:

  - Search by keyword: Enter a keyword in the search box and click the search icon to search for specific IP addresses in the whitelist.
  - Download: Click Download to download all whitelisted IP addresses to your local computer.
  - Clear Whitelist: Click Clear Whitelist to remove all whitelisted IP addresses.
  - Manually Add: Click Manually Add to manually add IP addresses to the whitelist.

    > Note:
    > You can add up to 500 IP addresses to the whitelist.

4.3.5 Deactivate the black hole status

After your website is configured in Anti-DDoS Pro, incoming traffic to your site is forwarded to a black hole when the attack bandwidth exceeds your basic or burstable bandwidth. To restore your service, you can deactivate the black hole status in the Anti-DDoS Pro console. Each user can deactivate the black hole status up to five times every day.

Context

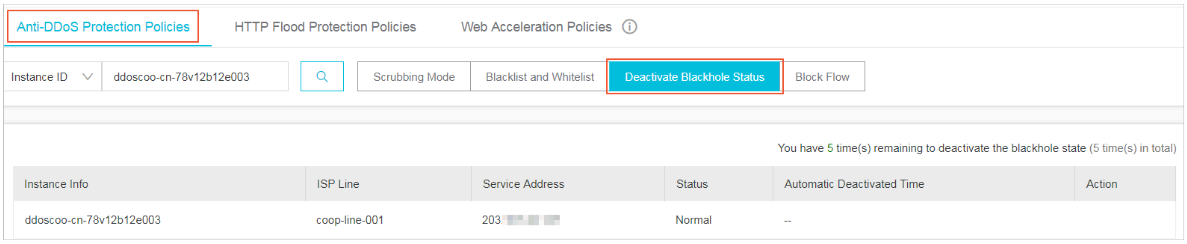
To avoid activating a black hole multiple times, we recommend that you increase your basic or burstable bandwidth before you deactivate the black hole status.

Procedure

1. Log on to the Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Protection > Protection Settings.

3. Click Anti-DDoS Protection Policies and select Deactivate Black Hole.

> Note:
>
> - Each user can deactivate the black hole status up to five times every day. This quota is reduced by one each time the black hole status is successfully lifted.
> - When you deactivate the black hole status for the first time that day, the black hole status is immediately lifted. When you deactivate the black hole status consecutively, the time interval between each operation must be no less than 10 minutes.


Anti-DDoS Protection Policies
HTTP Flood Protection Policies
Web Acceleration Policies
Instance ID
ddoscoo-cn-78v12b12e003
Scrubbing Mode
Blacklist and Whitelist
Deactivate Blackhole Status
Block Flow

You have 5 time(s) remaining to deactivate the blackhole state (5 time(s) in total)

Instance Info	ISP Line	Service Address	Status	Automatic Deactivated Time	Action
ddoscoo-cn-78v12b12e003	coop-line-001	203[redacted]	Normal	--	

4. Select the Anti-DDoS Pro instance that is in black hole status. Check the time before the black hole status is automatically lifted. You can also click Deactivate under the Actions column to manually deactivate the block hole status.

   - The black hole status is a risk management strategy used by the backend services of Alibaba Cloud. Attempts to deactivate the black hole status may fail , which does not reduce your quota for manually deactivating the block hole status. If an attempt to deactivate the black hole status fails, an error message appears. You can try to deactivate the black hole status later.
   - If the message "Cannot deactivate the black hole status due to risk management. Wait 10 minutes and try again." appears, please wait and try again later.
   - If no error message appears, the black hole status is lifted. You can refresh the page to check if network access is restored.

4.3.6 Block traffic flow

Anti-DDoS Pro allows you to block overseas traffic transmitted through China Telecom and China Unicom networks. Overseas traffic is any traffic originating from countries and regions outside mainland China. Each user can block overseas traffic up to 10 times and unblock traffic at any time.

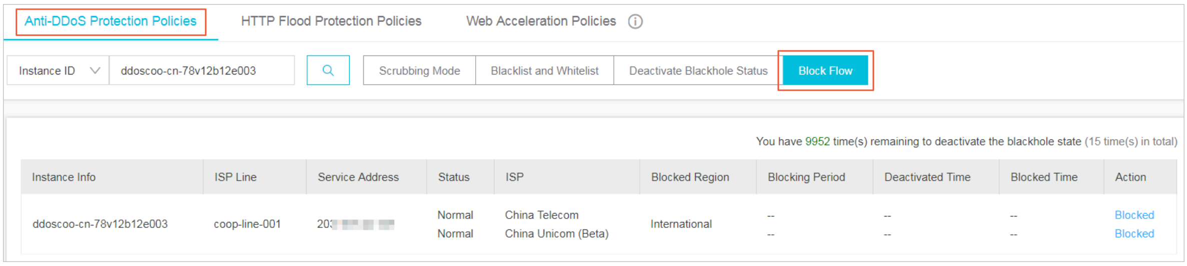
Context

We recommend that you block overseas traffic when your service is suffering DDoS attacks and the attack bandwidth is likely to exceed your burstable bandwidth. If overseas traffic accounts for 30% of the attack bandwidth, you can block overseas traffic to quickly bring the attacks under control.

Once blocked, overseas traffic is discarded at the Anti-DDoS scrubbing center. This lowers the chance of triggering a black hole when the Anti-DDoS Pro instance is overwhelmed by attack traffic. Anti-DDoS Pro takes multiple factors into account when it comes to activating a black hole, such as the attack bandwidth and the source of the attack traffic. Blocking overseas traffic can to some degree reduce the chance of triggering a black hole.

Procedure

1. Log on to the Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Protection > Protection Settings.
3. On the Anti-DDoS Protection Policies page, click Block Flow.


Anti-DDoS Protection Policies
HTTP Flood Protection Policies
Web Acceleration Policies
Instance ID
ddoscoo-cn-78v12b12e003
Scrubbing Mode
Blacklist and Whitelist
Deactivate Blackhole Status
Block Flow

You have 9952 time(s) remaining to deactivate the blackhole state (15 time(s) in total)

Instance Info	ISP Line	Service Address	Status	ISP	Blocked Region	Blocking Period	Deactivated Time	Blocked Time	Action
ddoscoo-cn-78v12b12e003	coop-line-001	20[redacted]	Normal Normal	China Telecom China Unicom (Beta)	International	-- --	-- --	-- --	Blocked Blocked

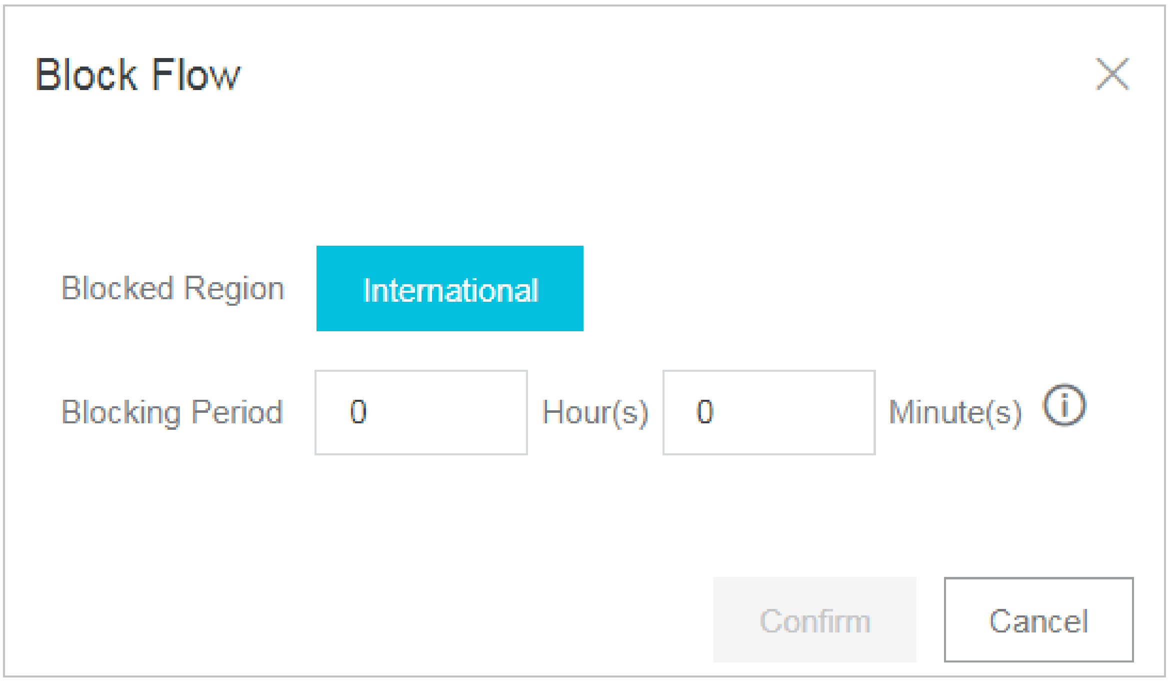
4. Select the Anti-DDoS Pro instance and network type, and click Block.

Note:

- You can block overseas traffic transmitted through China Telecom and China Unicom networks. We recommend that you block traffic transmitted through China Telecom networks first and observe the trend of attacks. If the attack bandwidth is still increasing, you can then block traffic transmitted through China Unicom networks.
- Each user can block overseas traffic up to 10 times. This quota is reduced by one each time you block traffic transmitted through China Telecom or China Unicom networks.

5. In the Block Traffic Flow dialog box, select the blocked region and the blocking duration, and click Confirm. Currently, you can only select the international region.

   Note:
   The blocking duration can range from 15 minutes to 23 hours and 59 minutes.



Block Flow

Blocked Region: International

Blocking Period: 0 Hour(s) 0 Minute(s)

6. Click Confirm.

   - If an error occurs when blocking overseas traffic, an error message appears. Resolve the issue and try again later.
   - If no error message appears, overseas traffic is blocked. Refresh the page and you can find the blocked region and blocking duration. The block button is replaced by Unblock. To immediately unblock traffic, click Unblock under the Actions column.

4.4 Configure layer 7 protection

4.4.1 Configure the blacklist and whitelist

Anti-DDoS Pro allows you to configure a blacklist and whitelist to control access to your domain.

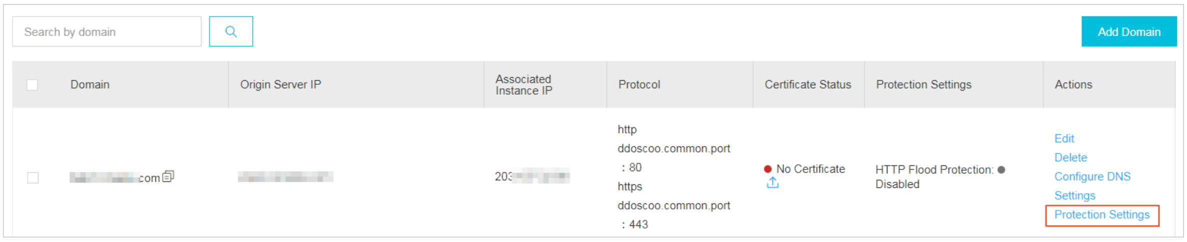
- You can use the whitelist to allow access to a list of IPs and CIDR blocks without further inspection.

- You can use the blacklist to deny access to a list of IPs and CIDR blocks.

> Note:
> The configurations of the blacklist and whitelist are effective for single domains, not Anti-DDoS Pro instances. For each domain, you can add up to 200 entries in the blacklist and whitelist respectively. You can enter either IP addresses or CIDR blocks in the blacklist and whitelist.

To block IPs that send a large number of malicious requests to your server, you can add them to the blacklist. Meanwhile, you can add internal CIDR blocks, service interface IPs, and verified IPs to the whitelist so that requests from these IPs are not blocked.

1. Log on to the Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Management > Websites, select a domain, and click Protection Settings.



□	Domain	Origin Server IP	Associated Instance IP	Protocol	Certificate Status	Protection Settings	Actions
□	[redacted]com	[redacted]	203[redacted]	http ddoscoo.common.port : 80 https ddoscoo.common.port : 443	● No Certificate	HTTP Flood Protection: ● Disabled	Edit Delete Configure DNS Settings Protection Settings

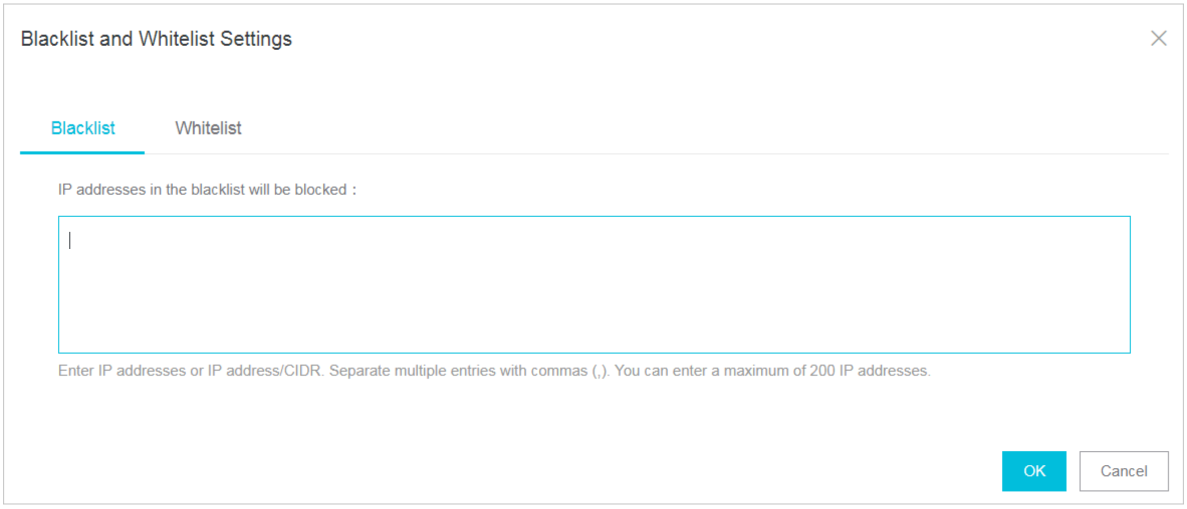
3. In the Blacklist and Whitelist area, click Change Settings.

> Note:
> To configure the blacklist or whitelist, you must enable HTTP flood protection.

- Click the Blacklist tab, enter the IP addresses or CIDR blocks that you want to block, and click OK.
- Click the Whitelist tab, enter the IP addresses or CIDR blocks that you want to allow access to, and click OK.

> Note:

You can enter up to 200 entries in the blacklist and whitelist respectively. Each entry can be an IP address or CIDR block. Separate multiple entries with commas (,).


Blacklist and Whitelist Settings

IP addresses in the blacklist will be blocked :

Enter IP addresses or IP address/CIDR. Separate multiple entries with commas (,). You can enter a maximum of 200 IP addresses.

Note:

- The blacklist and whitelist feature is only available in domain configurations.
- The configurations of the blacklist and whitelist take effect immediately after creation.

  Notice:

  In some situations, it may take a few minutes for the configurations to take effect. If the configurations of the blacklist and whitelist do not take effect immediately, wait a few minutes.
- You can add 0.0.0.0/0 to the blacklist, which blocks requests from all IP addresses except the ones listed in the whitelist.
- Once created, the configurations of the blacklist and whitelist are effective for all Anti-DDoS Pro instances that are associated with the specified domain.

4.4.2 Block requests from specific regions

Geo-blocking allows you to block access from specific regions based on IP address. For example, you can choose to block requests from 34 Chinese provincial regions and 7 international regions. Currently, this feature is only available to specific domains.

Prerequisites

Before you enable Geo-blocking, make sure that your domain is associated with an Anti-DDoS Pro instance of the enhanced package.

Context

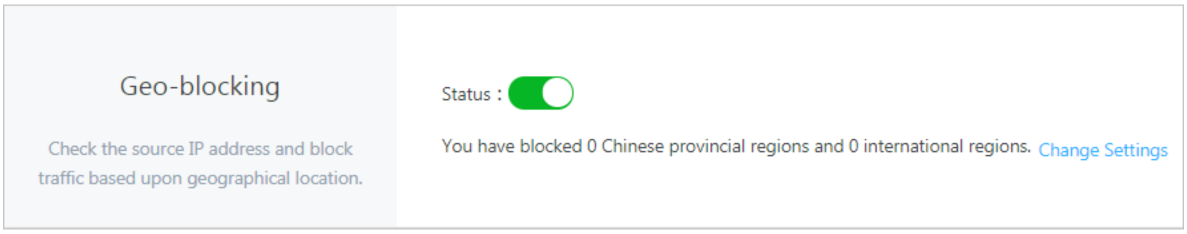
Assume that all normal requests to website example.aliyundemo.com are from 34 Chinese provincial regions. You can use Geo-blocking to block requests from international regions.

Notes

- To enable Geo-blocking for multiple domains, you must modify Geo-blocking status for each domain respectively.
- When Geo-blocking is enabled, Anti-DDoS Pro identifies and filters traffic based on the region where the traffic originates. This feature does not reduce the volume of traffic that enters Anti-DDoS Pro scrubbing centers.

Procedure

1. Log on to the new Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Protection > Protection Settings > HTTP Flood Protection Policies.
3. Select a domain, for example, example.aliyundemo.com. In the Geo-blocking section, click the Status toggle to enable Geo-blocking for the selected domain.



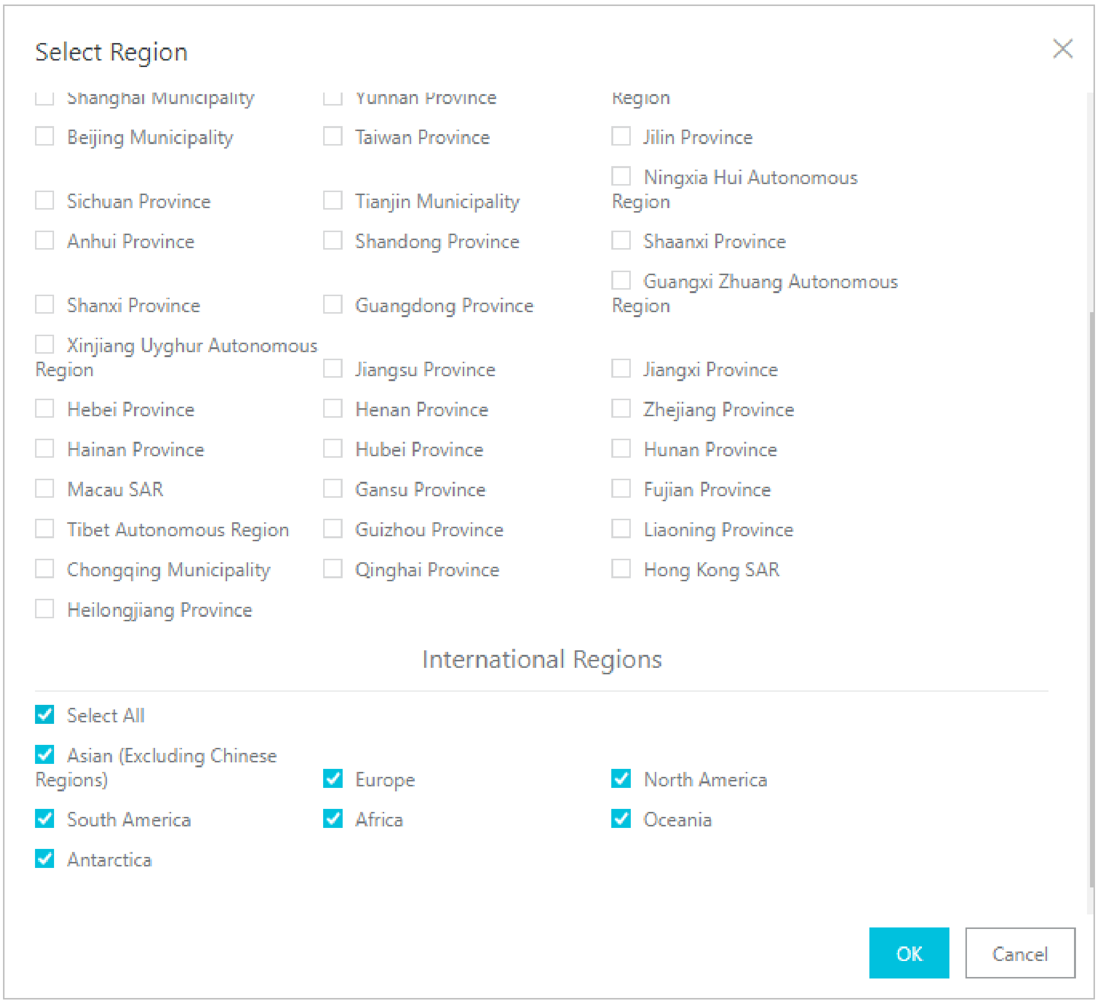
Geo-blocking

Check the source IP address and block traffic based upon geographical location.

Status :

You have blocked 0 Chinese provincial regions and 0 international regions.

4. Click Change Settings. Select the regions that you want to block in the dialog box that appears. You can select regions as follows to block traffic from international regions.



Select Region

□ Shanghai Municipality □ Yunnan Province Region

□ Beijing Municipality □ Taiwan Province □ Jilin Province

□ Sichuan Province □ Tianjin Municipality □ Ningxia Hui Autonomous Region

□ Anhui Province □ Shandong Province □ Shaanxi Province

□ Shanxi Province □ Guangdong Province □ Guangxi Zhuang Autonomous Region

□ Xinjiang Uyghur Autonomous Region □ Jiangsu Province □ Jiangxi Province

□ Hebei Province □ Henan Province □ Zhejiang Province

□ Hainan Province □ Hubei Province □ Hunan Province

□ Macau SAR □ Gansu Province □ Fujian Province

□ Tibet Autonomous Region □ Guizhou Province □ Liaoning Province

□ Chongqing Municipality □ Qinghai Province □ Hong Kong SAR

□ Heilongjiang Province

International Regions

☑ Select All

☑ Asian (Excluding Chinese Regions) ☑ Europe ☑ North America

☑ South America ☑ Africa ☑ Oceania

☑ Antarctica

5. Click OK and the configuration takes effect immediately.

4.4.3 Configure fine-grained access control rules

Fine-grained access control allows you to create custom rules to control access to your business. You can filter requests based on the request IP, URL, and common HTTP header fields, such as the Referer, User-Agent, and parameters. You can handle matching requests with different actions, such as clear, block, and challenge. This feature supports custom business scenarios, such as hotlinking protection and management console protection.

Context

Each access control rule consists of one or more match conditions and an action. When you create a rule, you need to define match conditions by specifying the field name, logical relation, and field value. You also need to select an action that will be triggered when a matching request is detected.

Match conditions

Each match condition consists of a field name, logical relation, and field value. Currently, field values do not support regular expressions, but can be left empty.

Actions

The following actions are supported:

- Block: Requests that meet match conditions are blocked.
- Clear: Requests that meet match conditions are allowed to your website.
- Challenge: Captcha verification is used to verify the source IP of the requests that meet match conditions.

The order of rules

If multiple rules are configured, requests are compared to these rules based on the order that rules are displayed in the rule list. Anti-DDoS Pro compares requests to the first rule in the list and continues in sequence from top to bottom.

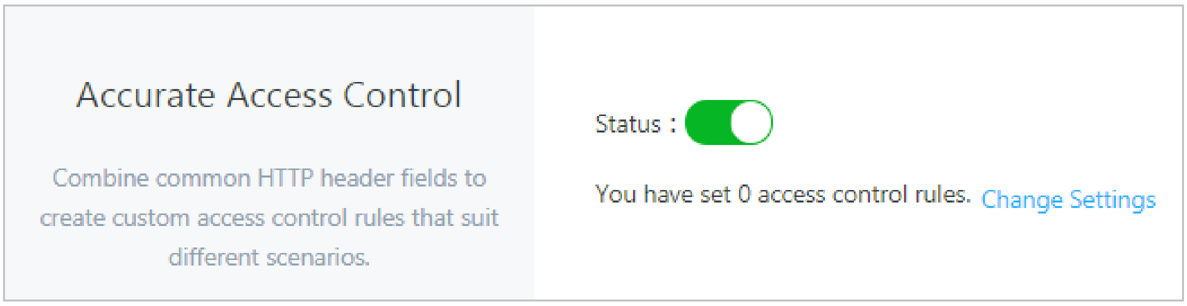
Notes

- The number of access control rules is subject to a limit.
  - Standard package: For each protected domain, a maximum of five rules can be configured. Only the request IP, URL, Referer, and User-Agent field can be used to create match conditions.
  - Enhanced package: For each protected domain, a maximum of 10 rules can be configured.
- The rule priority is determined by the order that rules are displayed in the rule list . The higher the rule, the higher the priority. If a request meets multiple match conditions of different rules, the action of the rule with the highest priority takes effect.

Procedure

1. Log on to the new Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Protection > Protection Settings > HTTP Flood Protection Policies.

3. Select a domain, for example, example.aliyundemo.com. In the Accurate Access Control section, click the Status toggle to enable fine-grained access control for the selected domain.



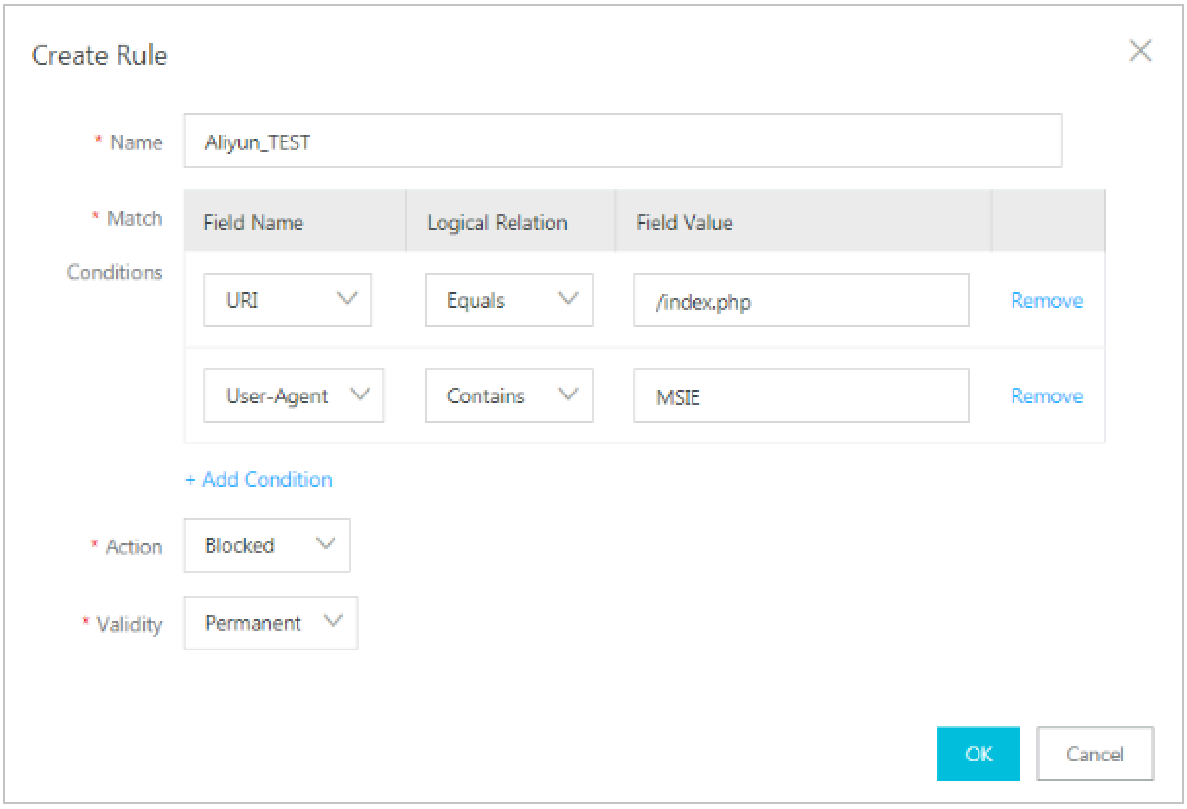
Accurate Access Control

Combine common HTTP header fields to create custom access control rules that suit different scenarios.

Status :

You have set 0 access control rules. Change Settings

4. Click Change Settings to configure access control rules. In the following example, requests that attempt to access the `/ index . php` page and contain MSIE in the User-Agent field are blocked.



Create Rule

* Name: Aliyun_TEST

* Match Conditions

Field Name	Logical Relation	Field Value	
URI	Equals	/index.php	Remove
User-Agent	Contains	MSIE	Remove

* Action: Blocked

* Validity: Permanent

Supported fields

Note:

Anti-DDoS Pro instances of the standard package only support the following fields: request IP, URL, Referer, and User-Agent.

Field	Description	Supported logical relation
IP	The source IP of the request.	· Is Part Of · Is Not Part Of
URI	The request URI.	· Contains · Does Not Contain · Equals · Does Not Equal · Is Shorter Than · Has a Length Of · Is Longer Than
User-Agent	The information about the browser that sent the request.	· Contains · Does Not Contain · Equals · Does Not Equal · Is Shorter Than · Has a Length Of · Is Longer Than
Cookie	The cookie in the request.	· Contains · Does Not Contain · Equals · Does Not Equal · Is Shorter Than · Has a Length Of · Is Longer Than · Does Not Exist
Referer	The URL of the site that initiated the request. This URL indicates the page that contained the hyperlink to the currently requested URL.	· Contains · Does Not Contain · Equals · Does Not Equal · Is Shorter Than · Has a Length Of · Is Longer Than · Does Not Exist

Field	Description	Supported logical relation
Content-Type	The content type, or MIME type, of the returned content that is specified by the request.	· Contains · Does Not Contain · Equals · Does Not Equal · Is Shorter Than · Has a Length Of · Is Longer Than
X-Forwarded-For	The originating IP address of the client that initiated the request.	· Contains · Does Not Contain · Equals · Does Not Equal · Is Shorter Than · Has a Length Of · Is Longer Than · Does Not Exist
Content-Length	The byte length of the HTTP body of the request.	· Is Smaller Than · Has a Value Of · Is Larger Than
Post-Body	The content of the request .	· Contains · Does Not Contain · Equals · Does Not Equal
Http-Method	The request method, such as GET and POST.	· Equals · Does Not Equal
Header	The request header. You can specify an HTTP header field and value based on your needs.	· Contains · Does Not Contain · Equals · Does Not Equal · Is Shorter Than · Has a Length Of · Is Longer Than · Does Not Exist

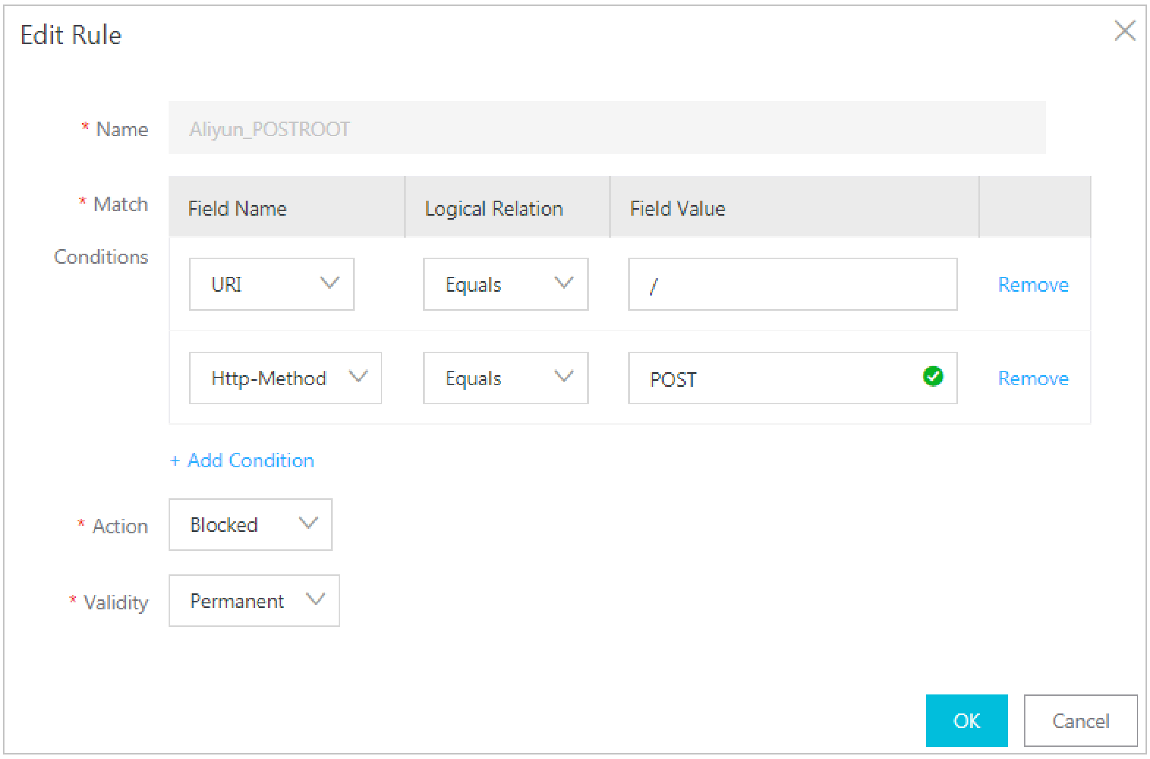
Field	Description	Supported logical relation
Params	The parameters in the request URL. The parameter part in the URL usually follows a question mark (?). For example, in the URL www.abc.com/index.html?action=login, the parameter part is action=login.	· Contains · Does Not Contain · Equals · Does Not Equal · Is Shorter Than · Has a Length Of · Is Longer Than

Examples

The following examples demonstrate how to configure fine-grained access control rules to block specific types of requests.

- Block specific requests

  Under most circumstances, clients do no send POST requests to the root directory of your website. In an HTTP flood attack, your website may receive a large number of POST requests to the root directory. We recommend that you check the validity of these requests. If it is confirmed that these requests are not normal requests, you can use access control rules to block them. A sample configuration is provided as follows:



Edit Rule

* Name: Aliyun_POSTROOT

* Match Conditions

Field Name	Logical Relation	Field Value	
URI	Equals	/	Remove
Http-Method	Equals	POST ✓	Remove

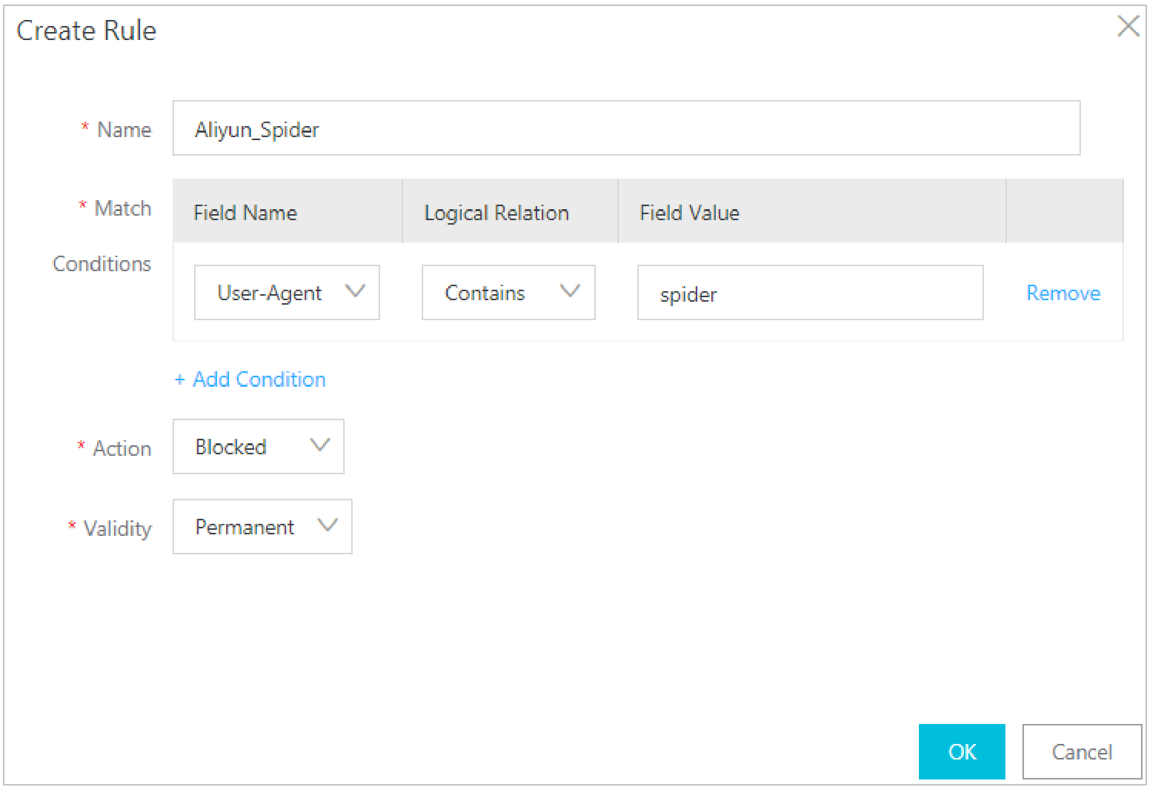
+ Add Condition

* Action: Blocked

* Validity: Permanent

- Block Web crawlers

  If your website receives a large volume of crawler traffic, the traffic may originate from malicious bots simulating crawlers, which is one of the common forms of HTTP flood attacks. You can use access control rules to block crawlers.



Create Rule

* Name: Aliyun_Spider

* Match Conditions:

Field Name	Logical Relation	Field Value	
User-Agent	Contains	spider	Remove

* Action: Blocked

* Validity: Permanent

5. Click OK and the rule takes effect immediately.

4.4.4 Configure HTTP flood protection

Anti-DDoS Pro provides four protection modes to help you defend against HTTP flood attacks.

- Normal: The default HTTP flood protection mode. We recommend that you use this mode when the traffic pattern on your website is normal.

  This mode defends against typical HTTP flood attacks and does not block normal requests.
- Emergency: You can enable this mode when you notice HTTP response errors, traffic anomalies, or CPU and memory usage spikes.

  The emergency mode provides relatively rigorous protection. This mode can defend against more complicated flood attacks, but may mistakenly block a small number of normal requests.
- Strict: This mode provides rigorous protection against HTTP flood attacks. The mode uses captcha verification to verify the identity of all visitors. Only verified visitors are allowed to access the site.

  Note:

The strict mode is built on a verification mechanism that verifies whether the request is sent from a browser by a real user. If this mode is enabled for API services and native applications, false positives may occur, disrupting the availability of your service.

- Super Strict: This mode provides the most rigorous protection against HTTP flood attacks. The mode uses captcha verification to verify the identity of all visitors. Only verified visitors are allowed to access the site.

  Compared with the strict mode, this mode combines captcha verification with anti-debugging techniques to enhance the protection of your site.

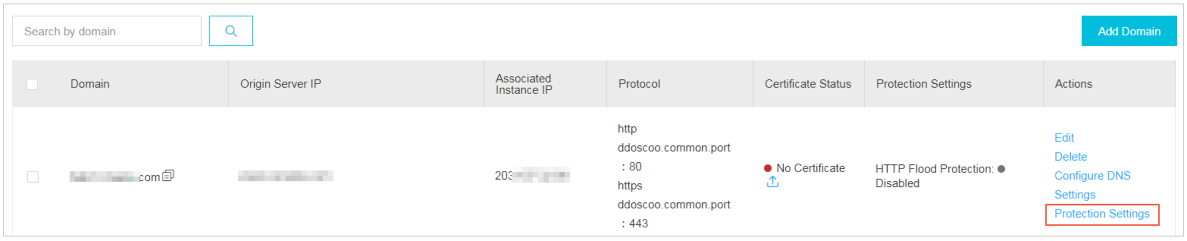
  Note:

  The super strict mode is built on a verification mechanism that verifies whether the request is sent from a browser by a real user. In very rare situations, a browser error may occur and cause service interruptions. Users only need to restart the browser to resolve this issue. However, if this mode is enabled for API services and native applications, false positives may occur, disrupting the availability of your service.

Procedure

By default, normal HTTP flood protection is used. You can change protection modes based on your needs.

1. Log on to the Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Management > Websites, select a domain, and click Protection Settings.

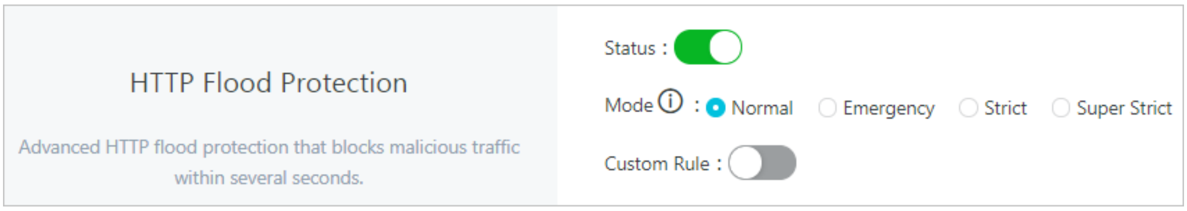


□	Domain	Origin Server IP	Associated Instance IP	Protocol	Certificate Status	Protection Settings	Actions
□	[redacted]com	[redacted]	203[redacted]	http ddoscoo.common.port : 80 https ddoscoo.common.port : 443	● No Certificate	HTTP Flood Protection: ● Disabled	Edit Delete Configure DNS Settings Protection Settings

3. In the HTTP Flood Protection area, select a protection mode.

   Note:

You can click Status to disable HTTP flood protection.



HTTP Flood Protection

Advanced HTTP flood protection that blocks malicious traffic within several seconds.

Status : ON

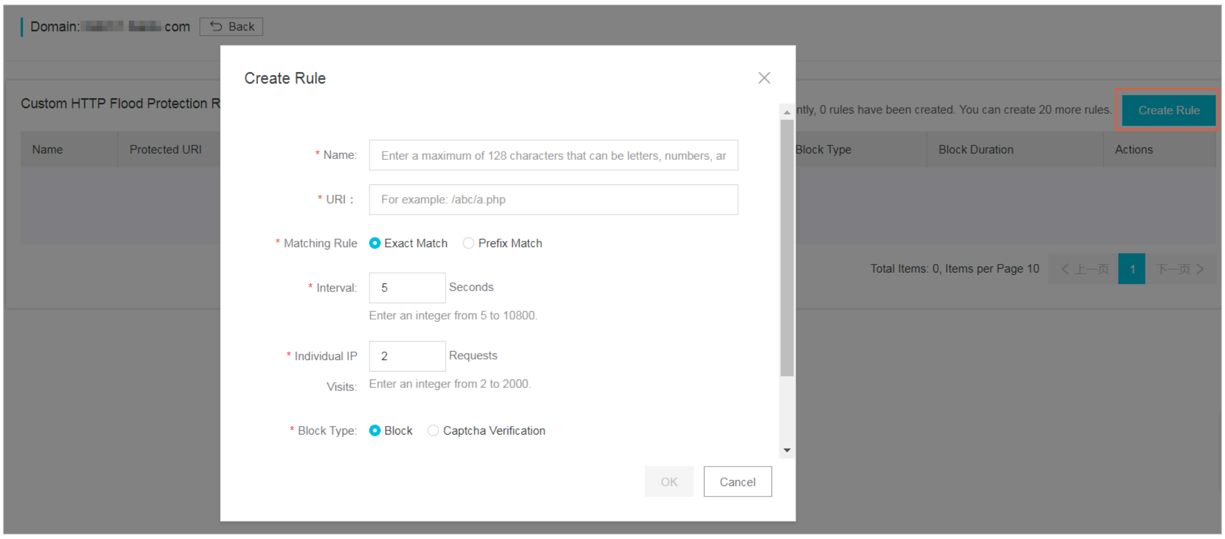
Mode ⓘ : ● Normal ○ Emergency ○ Strict ○ Super Strict

Custom Rule : OFF

Custom rules

The HTTP flood protection feature also allows you to create custom rules to defend against HTTP flood attacks. You can add custom rules to protect specific URLs.

On the Protection Settings page, find the HTTP Flood Protection area and enable custom rules. You can then click Change Settings to create custom rules.



Domain: [redacted] com ⮌ Back

Custom HTTP Flood Protection R

ntly, 0 rules have been created. You can create 20 more rules. Create Rule

Name	Protected URI	Block Type	Block Duration	Actions

Total Items: 0, Items per Page 10 < 上一页 1 下一页 >

Create Rule

* Name: Enter a maximum of 128 characters that can be letters, numbers, ar

* URI : For example: /abc/a.php

* Matching Rule ● Exact Match ○ Prefix Match

* Interval: 5 Seconds
Enter an integer from 5 to 10800.

* Individual IP Visits: 2 Requests
Enter an integer from 2 to 2000.

* Block Type: ● Block ○ Captcha Verification

OK Cancel

Best practices for HTTP flood protection

The protection effects provided by different protection modes are as follows: Super Strict > Strict > Emergency > Normal. The chances of false positives when using these protection modes are as follows: Super Strict > Strict > Emergency > Normal.

In normal situations, we recommend that you use the normal HTTP flood protection mode to protect your site. This mode only blocks IP addresses that frequently send requests to your website. We recommend that you enable the emergency or strict mode when your website is overwhelmed by flood attacks and the normal protection mode fails to protect your site.

Note:

For API services and native applications, you cannot use the strict or super strict mode because false positives are likely to occur. You can instead create custom rules to protect specific URLs from flood attacks.

4.4.5 Enable intelligent protection

Based on Alibaba Cloud's big data capabilities, intelligent protection utilizes an analysis engine to learn the traffic pattern of your business and adjust protection schemes accordingly. This feature can timely detect and block malicious attacks, such as bot attacks and HTTP flood attacks.

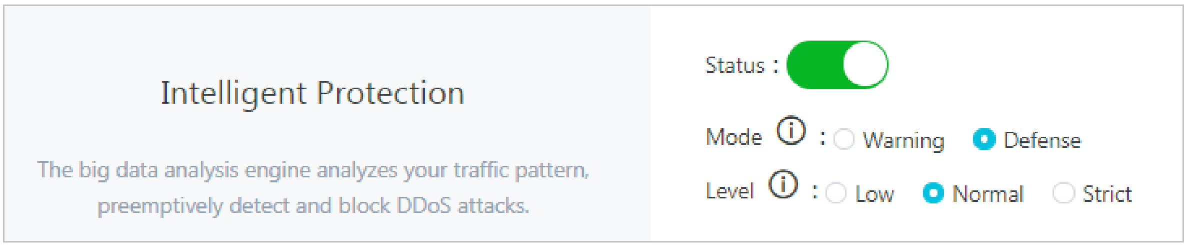
Context

Notice:

After intelligent protection is enabled, you cannot delete rules that are automatically created by the system. If you find that the automatically created rules do not suit your business needs, we recommend that you disable intelligent protection. After intelligent protection is disabled, these rules will be deleted instantly.

Procedure

1. Log on to the new Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Protection > Protection Settings > HTTP Flood Protection Policies.
3. Select a domain, for example, example.aliyundemo.com. In the Intelligent Protection section, click the Status toggle to enable Intelligent Protection for the selected domain.



Intelligent Protection

The big data analysis engine analyzes your traffic pattern, preemptively detect and block DDoS attacks.

Status : ●

Mode ⓘ : ○ Warning ● Defense

Level ⓘ : ○ Low ● Normal ○ Strict

Result

The system displays the following message: "The operation is successful", indicating that intelligent protection has been enabled.

When intelligent protection is enabled, your Anti-DDoS Pro instance automatically creates protection rules when attacks are detected. You can view these rules in the Accurate Access Control section. The name of these rules all start with string "smartcc_".

Note:
Each rule have an expiration time. Once expired, the rule will be invalid and automatically deleted.

4.4.6 Configure static page caching rules

Integrated with Web caching techniques, Anti-DDoS Pro provides a scrubbing center that protects your website from DDoS attacks and also reduces page loading time.

Prerequisites

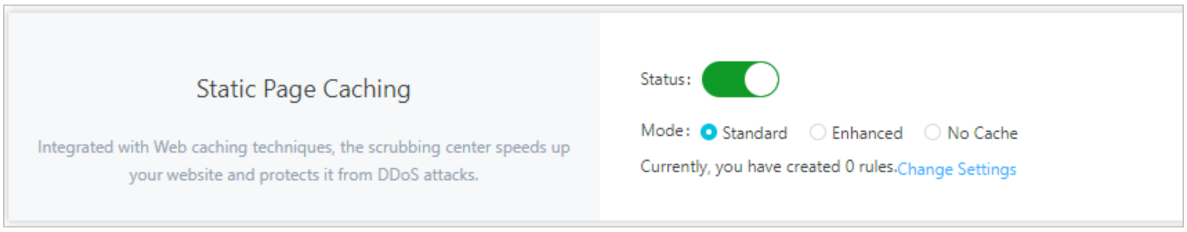
Before you enable the static page caching feature, make sure that your domain is associated with an Anti-DDoS Pro instance of the enhanced package.

Context

You can use the static page caching feature to speed up your website and configure custom rules to reduce the loading time of specific pages.

Procedure

1. Log on to the new Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Protection > Protection Settings > Web Acceleration Policies.
3. Select a domain and click the Status toggle to enable Static Page Caching for the selected domain.
4. Select the cache mode.
   - Standard: This mode will only cache requests that access static resources on the website, such as CSS, JS, and TXT files.
   - Enhanced: This mode will try to cache all requests to the website.
   - No Cache: This mode will not cache any request to the website.



Static Page Caching

Integrated with Web caching techniques, the scrubbing center speeds up your website and protects it from DDoS attacks.

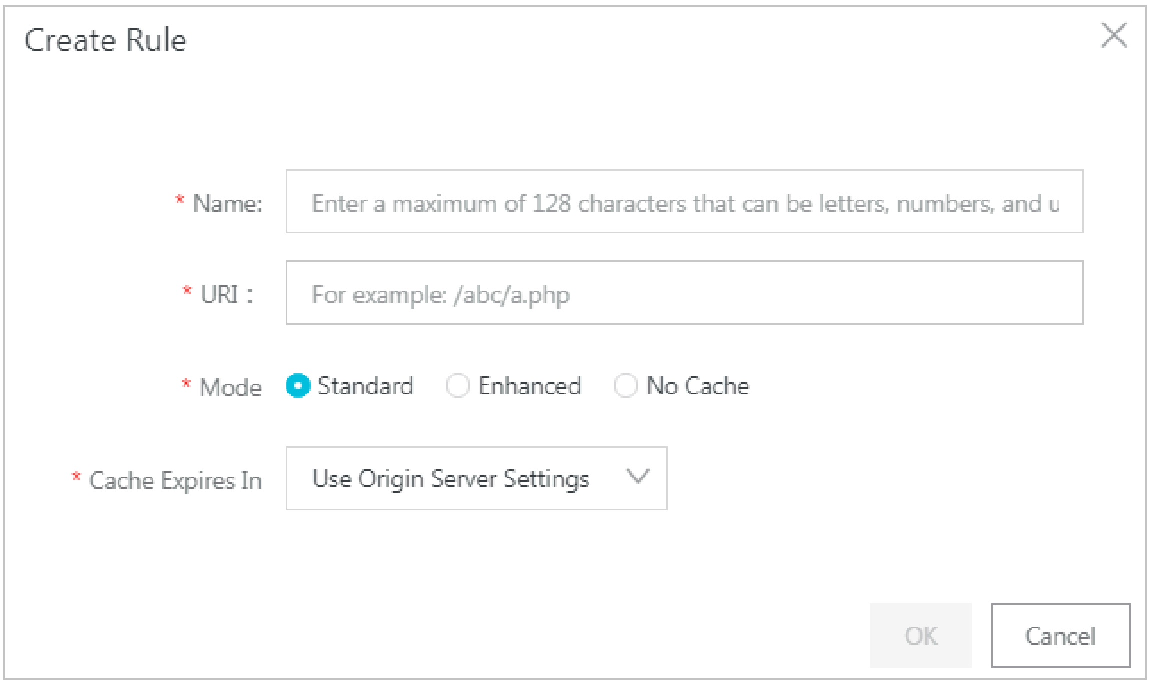
Status: ●

Mode: ● Standard ○ Enhanced ○ No Cache

Currently, you have created 0 rules.Change Settings

5. Click Change Settings to configure custom rules for specific pages on the website.
   a) Click Create Rule.
   b) In the Create Rule dialog box, specify the URI of the page to be cached, select the cache mode, and specify the time when the cache expires.

   Note:
   Do not enter parameters or wildcard characters in the URI field. For example, `/a/` indicates all pages under path `www.a.com/a/`.



Create Rule

* Name: Enter a maximum of 128 characters that can be letters, numbers, and u

* URI : For example: /abc/a.php

* Mode ● Standard ○ Enhanced ○ No Cache

* Cache Expires In Use Origin Server Settings

4.4.7 Change the IP of an ECS instance

If your origin server IP is exposed, we recommend that you deploy your service on an ECS instance to prevent attackers from bypassing Anti-DDoS Pro and hacking into your server. You can change IPs of ECS instances up to 10 times in the Anti-DDoS Pro console.

Context

Note:
You can only change public IPs of ECS instances that are connected to classic networks.

Procedure

1. Log on to the Anti-DDoS Pro console.

2. In the left-side navigation pane, choose Management > Websites.
3. Click Change ECS IP.

   Notice:
   When you change the IP of an ECS instance, your service deployed on the instance is interrupted for a few minutes. We recommend that you back up your data in advance.
4. You must stop an ECS instance if you want to change its IP address. If the target ECS instance is stopped, go to step 6. In the Change ECS IP dialog box, click Go to ECS to stop the target ECS instance in the ECS console.
   a) In the instances list, select the target ECS instance and click its instance ID.
   b) On the instance details page, click Stop in the upper-right corner.
   c) Select a stop method and click OK.

      Notice:
      To stop the instance, you must pass SMS verification.
   d) Wait until the target ECS instance is Stopped.
5. Return to the Change ECS IP dialog box, enter the ID of the target ECS instance, and click Next.
6. Make sure you have selected the right ECS instance and click Release IP.
7. After the original IP address is released, click Next and the system assigns a new IP address to the instance.
8. Click OK.

   Note:
   After you change the IP of an ECS instance, configure Anti-DDoS Pro to protect the instance and make sure the new IP address is not exposed to the public.

4.5 Security overview

After you associate your domain with an Anti-DDoS Pro instance and forward incoming traffic to the instance, you can view business metrics and DDoS events in real time on the Security Overview page in the console.

Context

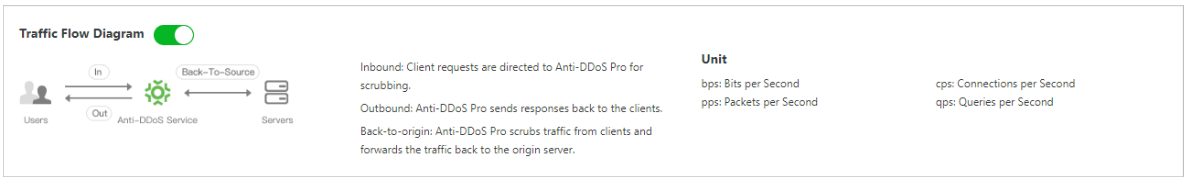
The Security Overview page provides an overview of the following business metrics and DDoS events:

- Business metrics: service bandwidth, request rate (QPS), connection rate (CPS), protected domains, and protected ports.
- DDoS events: volume based attacks, application layer attacks and protocol attacks.

Procedure

1. Log on to the Anti-DDoS Pro console.
2. In the left-side navigation pane, select Statistics > Security Overview. You can learn basic terms and concepts about Anti-DDoS Pro.

   In the top section of the Security Overview page, you can learn how incoming traffic flows between Anti-DDoS Pro and backend servers, and commonly used terms and units.



Traffic Flow Diagram

Inbound: Client requests are directed to Anti-DDoS Pro for scrubbing.

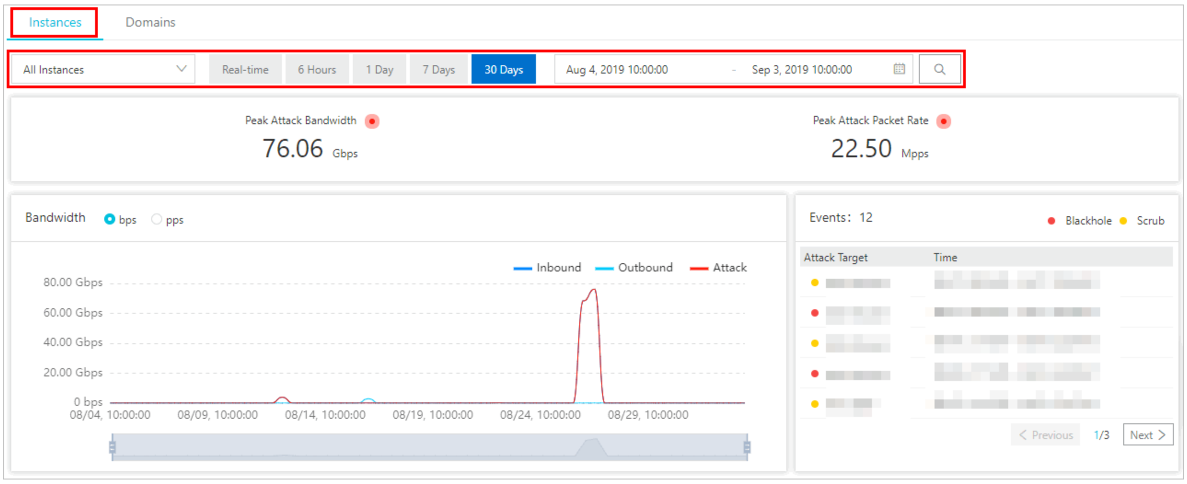
Outbound: Anti-DDoS Pro sends responses back to the clients.

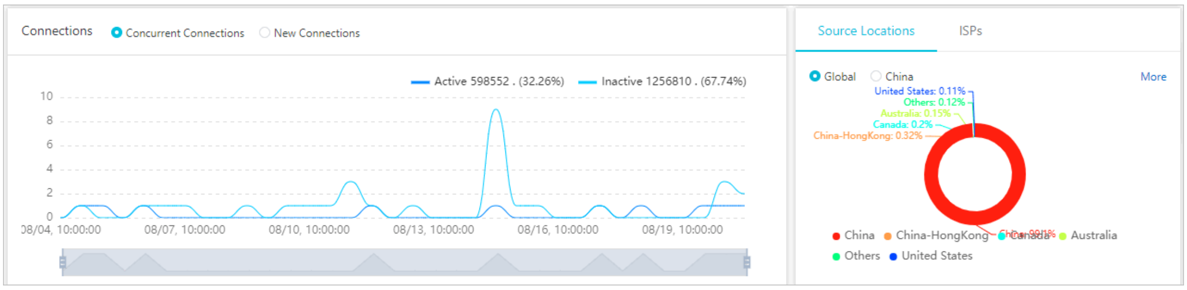
Back-to-origin: Anti-DDoS Pro scrubs traffic from clients and forwards the traffic back to the origin server.

Unit

bps: Bits per Second
pps: Packets per Second
cps: Connections per Second
qps: Queries per Second

3. Click the Instances tab, select one or multiple instances, and specify a time period to view the corresponding business metrics.

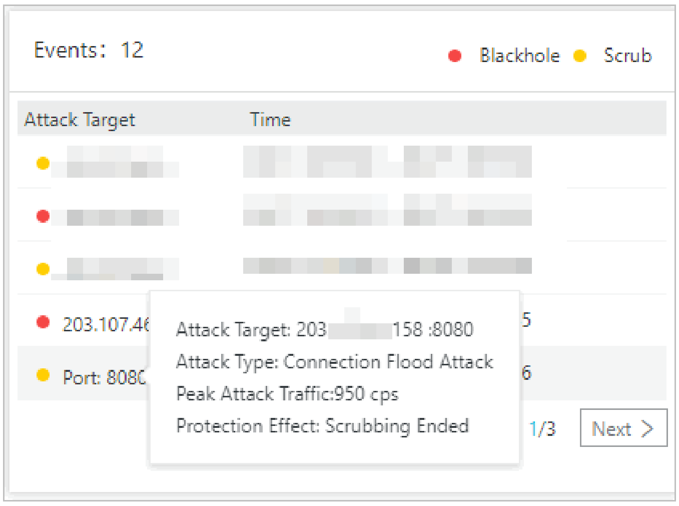




You can view the following information about selected instances:

- Peak Attack Bandwidth and Peak Attack Packet
- Trend of Traffic Bandwidth, including inbound traffic, outbound traffic, and attack traffic.
- Attack Events

  Hover over an IP address to view attack details, such as the attack type, peak attack traffic, and protection effect.

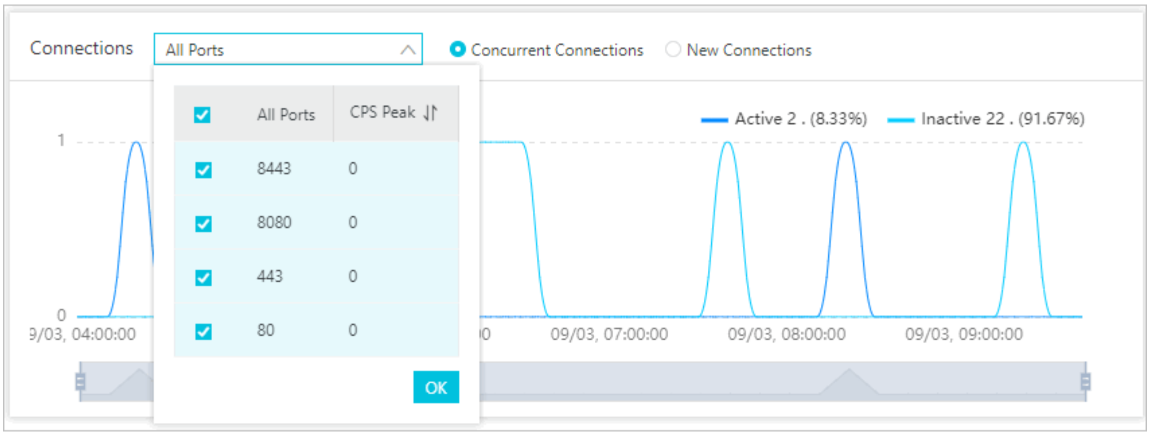


Attack Target: 203 158 :8080
Attack Type: Connection Flood Attack
Peak Attack Traffic:950 cps
Protection Effect: Scrubbing Ended

- Port Connections
  - Concurrent Connections: number of TCP connections established between the client and anti-DDoS pro at the same time.
  - New Connections: number of TCP connections added by the client to communicate with anti-DDoS pro per second.

Note:

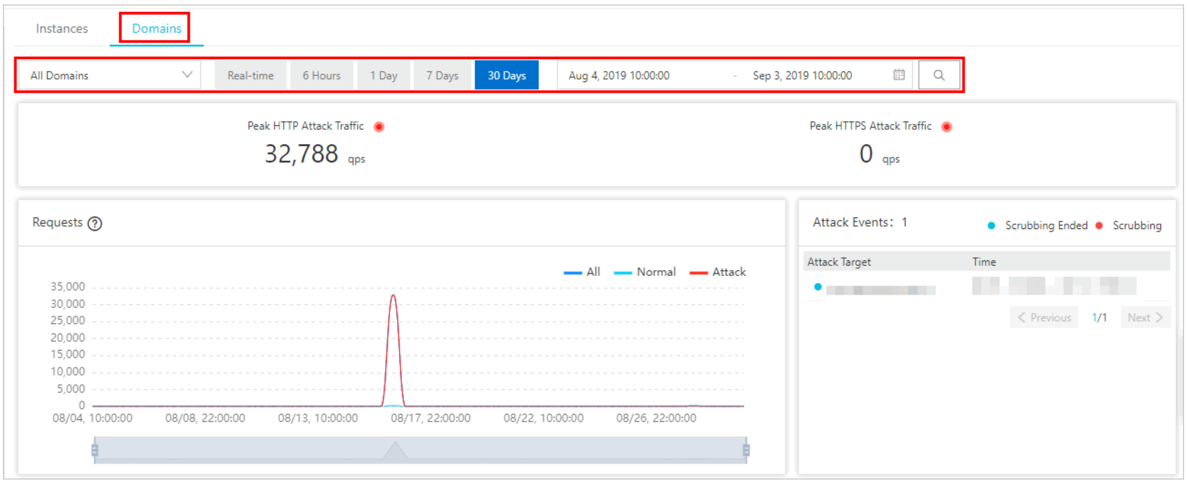
When only one instance is selected, the chart displays the numbers of different port connections to the instance. When two or more instances are selected, the chart displays the total number of port connections to the selected instances.

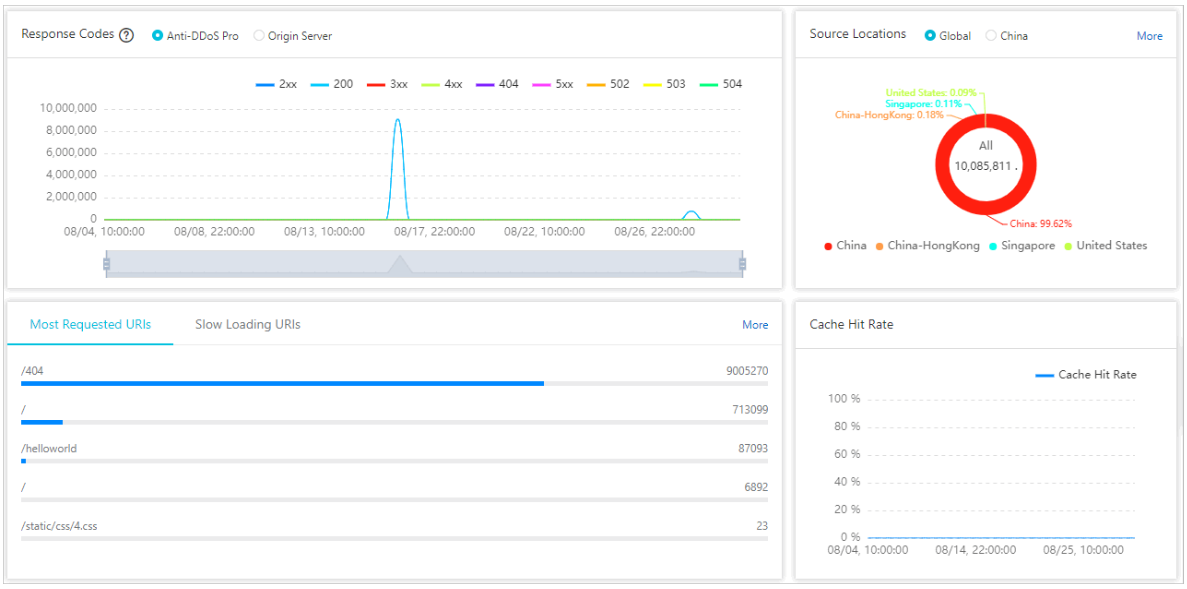


☑	All Ports	CPS Peak
☑	8443	0
☑	8080	0
☑	443	0
☑	80	0

- Traffic Source Locations and ISPs

4. Click the Domains tab, select one or multiple domains, and specify a time period to view the corresponding business metrics.





You can view the following information about selected domains:

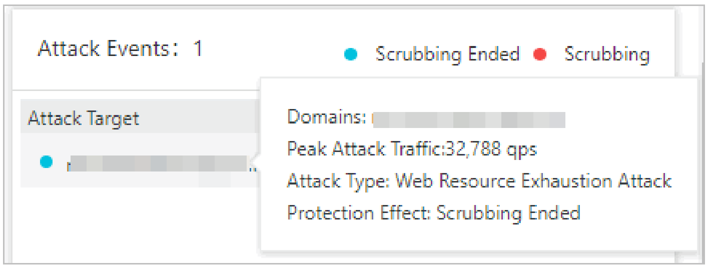
- Peak HTTP Attack Traffic and Peak HTTPS Attack Traffic
- Trend of Requests

  The trend of requests is displayed based on the peak values during specific time intervals. The time interval varies according to the search time period.

  - If the search time period is less than an hour, the time interval is one minute.
  - If the search time period is between 1 to 6 hours, the time interval is 10 minutes.
  - If the search time period is between 6 to 24 hours, the time interval is 30 minutes.
  - If the search time period is between 1 to 7 days, the time interval is one hour.

  - If the search time period is between 7 to 15 days, the time interval is 4 hours.
  - For other search time periods, the time interval is 12 hours.
- Application Layer Attack Events

  Hover over a domain to view attack details, such as the attack type and peak attack traffic.

  Attack Events： 1

  ● Scrubbing Ended ● Scrubbing

  Attack Target

  ● [redacted]

  Domains: [redacted]

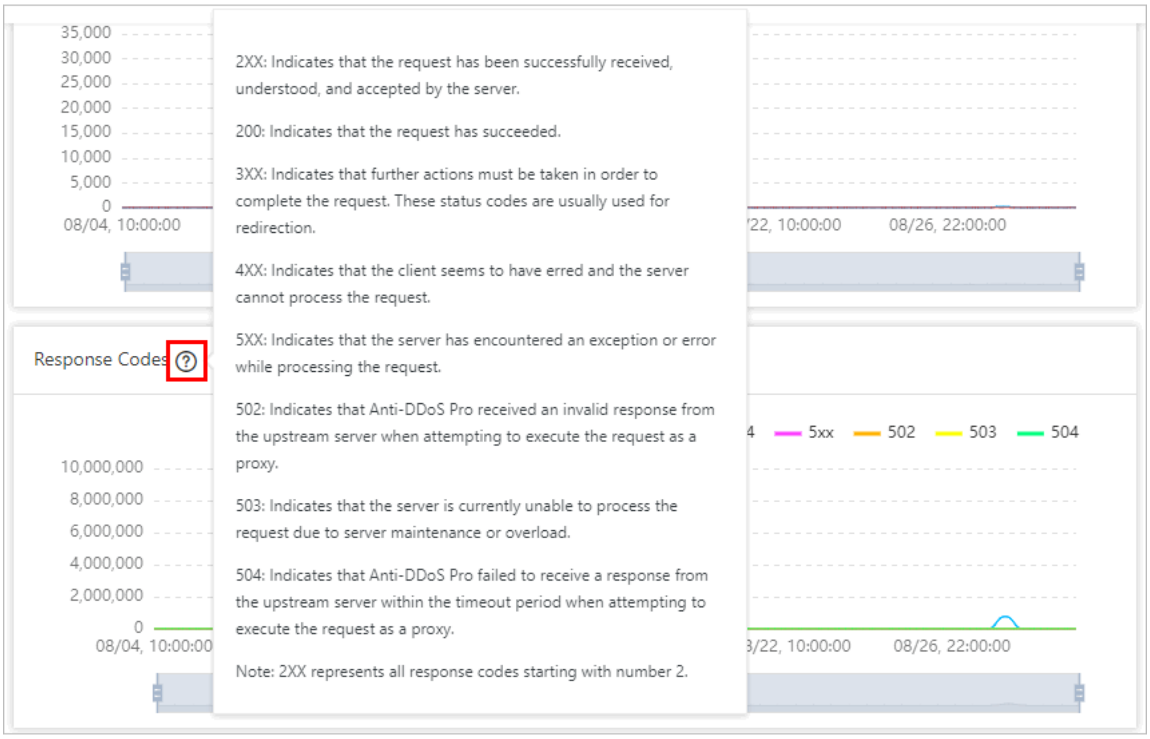
  Peak Attack Traffic:32,788 qps

  Attack Type: Web Resource Exhaustion Attack

  Protection Effect: Scrubbing Ended

- Response Codes

  The trend of response codes displays the accumulated numbers of response codes within the search time period, which is the same as the time period used in the trend of requests. You can hover over the question mark icon to find what the response codes mean.



2XX: Indicates that the request has been successfully received, understood, and accepted by the server.

200: Indicates that the request has succeeded.

3XX: Indicates that further actions must be taken in order to complete the request. These status codes are usually used for redirection.

4XX: Indicates that the client seems to have erred and the server cannot process the request.

5XX: Indicates that the server has encountered an exception or error while processing the request.

502: Indicates that Anti-DDoS Pro received an invalid response from the upstream server when attempting to execute the request as a proxy.

503: Indicates that the server is currently unable to process the request due to server maintenance or overload.

504: Indicates that Anti-DDoS Pro failed to receive a response from the upstream server within the timeout period when attempting to execute the request as a proxy.

Note: 2XX represents all response codes starting with number 2.

- Traffic Source Locations
- The Most Requested URIs and Slow Loading URIs
- Trend of Cache Hit Rate

Note:

To view the trend of cache hit rate, you must enable the static page caching feature first. For more information, see#unique_15.

4.6 View security reports

After you set up Anti-DDoS Pro to protect your business, you can find statistics about your traffic and protection status in the Anti-DDoS Pro console.

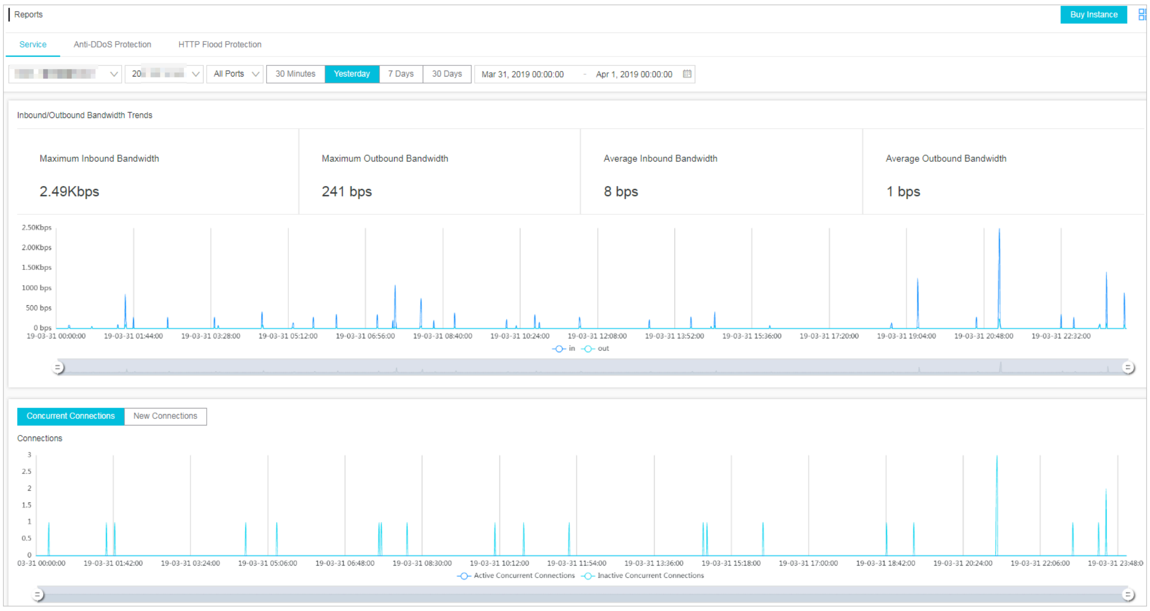
Procedure

1. Log on to the Anti-DDoS Pro console.

2. In the left-side navigation pane, choose Security Reports.

   - On the Service page, select an Anti-DDoS Pro instance and port, and specify a time range to view the inbound and outbound bandwidth, trends, and connections to your service.

     > Note:
     >
     > You can query traffic and connection data for up to 30 days.

     Reports

     Service | Anti-DDoS Protection | HTTP Flood Protection

     [redacted] | 20[redacted] | All Ports | 30 Minutes | Yesterday | 7 Days | 30 Days | Mar 31, 2019 00:00:00 - Apr 1, 2019 00:00:00

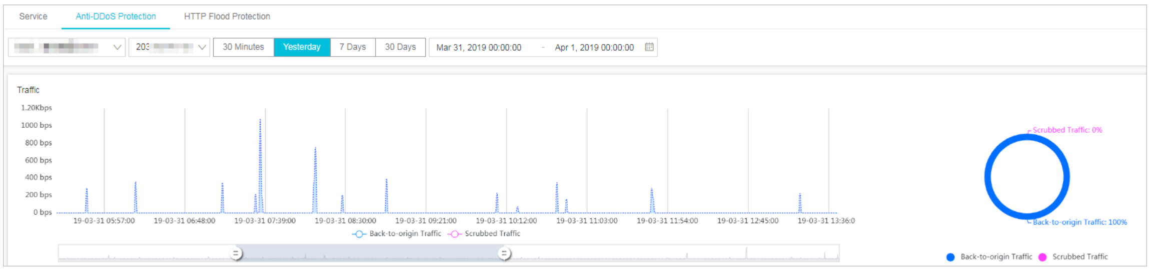
     Inbound/Outbound Bandwidth Trends

Maximum Inbound Bandwidth	Maximum Outbound Bandwidth	Average Inbound Bandwidth	Average Outbound Bandwidth
2.49Kbps	241 bps	8 bps	1 bps

     You can drag the slider to quickly change time ranges.

   - On the Anti-DDoS Protection page, select an Anti-DDoS Pro instance and specify a time range to view the traffic trends to your site and information about DDoS attacks.

     > Note:
     >
     > You can query traffic data and DDoS attacks for up to 30 days.

     Service | Anti-DDoS Protection | HTTP Flood Protection

     [redacted] | 20[redacted] | 30 Minutes | Yesterday | 7 Days | 30 Days | Mar 31, 2019 00:00:00 - Apr 1, 2019 00:00:00

     > Note:

Anti-DDoS Pro automatically filters out abnormal packets, for example, SYN packets, packets with invalid flags, and invalid TCP packets. This helps save server resources. Incoming traffic is scrubbed when abnormal packets are detected. This is why scrubbed traffic appears in the traffic chart when the traffic bandwidth to your server does not reach the scrubbing threshold.

- On the HTTP Flood Protection page, select a domain and specify a time range to view the trend of requests and information about HTTP flood attacks.

  Note:
  You can query request data and HTTP flood attacks for up to 30 days.

4.7 Log queries

4.7.1 Full log

Alibaba Cloud Anti-DDoS Pro is now integrated with Log Service to provide real-time analysis and reports of access and attack logs.

The APNIC DDoS threat landscape in 2017 states that more than 80% of DDoS attacks are combined with HTTP flood attacks, which can be difficult to detect. Hence, it is important to analyze access logs in real time to identify attack behaviors and apply a suitable protection policy in a timely manner.

After you set up Anti-DDoS Pro for your website, Log Service starts to collect access logs and attack logs in real time. You can query and analyze log data collected by Anti-DDoS Pro, and the results are displayed as easy-to-read dashboards.

Activate the full log service

Perform the following steps to activate the Anti-DDoS Pro full log service:

Note:
The Anti-DDoS Pro full log service is in the open beta phase. The open beta will end on April 30, 2019. During the open beta phase, full log retains log data of up to 3 TB for 30 days for free. If you want to continue using the full log service after the open beta, you will be billed based on storage specifications.

1. Log on to the Anti-DDoS Pro console. In the left-side navigation pane, choose System > Full Log. Click Enable Now to go to the full log service purchase page.

2. Select a storage capacity and a service duration based on your business needs.

   - Log Storage: the log storage capacity. Unit: TB.

     When the log storage capacity you purchase is full, new logs cannot be stored. We recommend that you monitor the remaining log storage space and expand the storage space preemptively.
   - Duration: the validity period of the full log service.

     After the full log service expires, new logs cannot be stored. If you do not renew the full log service within seven days after it expires, all log data will be automatically deleted.

   Note:

   If the full log service has sufficient storage capacity while it is valid, it will store the logs of 180 consecutive days starting from the day the full log service is enabled. Logs from day 181 will overwrite the logs from day 1. Logs from subsequent days will overwrite logs from the next earliest dates. Therefore, with sufficient storage capacity, only full logs of the last 180 days are stored.

   Example of how to select a log storage capacity

   Typically, each request log occupies about 2 KB of storage space. If the average request volume of your business is 500 queries per second (QPS), the storage space required for one day is: 500 x 60 x 60 x 24 x 2 = 86,400,000 KB (82 GB). The default storage period is 180 days. To store logs of the last 180 days, you need to select a log storage capacity of 14,832 GB (14.5 TB).
3. Click Buy Now and complete the payment.

After the full log service is activated, you can go to the Log Service page and click Details to view the service specifications.

Note:

We recommend that you monitor the remaining log storage space and validity period during use. When the utilization of the log storage capacity reaches 70%, expand the log storage capacity to make sure that new logs can be stored.

Enable the full log service

To enable the full log service for your protected website domain in Anti-DDoS Pro, perform the following steps:

1. Log on to the Anti-DDoS Pro console. In the left-side navigation pane, choose System > Full Log.
2. Click Enable Now. Follow the on-screen prompts to authorize Anti-DDoS Pro to store logs in your dedicated logstore.
3. On the Full Log page, select the target domain and turn on Status to enable full log for the selected domain.

After you enable full log, you can query and analyze the collected logs in real time, view and edit dashboards, and set monitoring alerts on the Full Log page.

Scenarios

Anti-DDoS Pro full log is applicable to the following scenarios:

- Troubleshoot website access problems

  After Anti-DDoS Pro full log is enabled for your website, you can query and analyze the logs collected from your website in real time. You can use SQL statements to analyze the access logs on your website. This allows you to quickly troubleshoot and analyze access problems, and view information about read/write latency and the distribution of ISPs.

  For example, the following statement can be used to view access logs on your website:

  ```
  __topic__ : DDoS_access_log
  ```
- Track HTTP flood attack sources

  Access logs record information about the sources and distribution of HTTP flood attacks. You can query and analyze access logs in real time to identify the origins of attacks, and use this information to select the most effective protection strategy.

  - For example, the following statement can be used to analyze the geographical distribution of HTTP flood attacks:

    ```
    __topic__ : DDoS_access_log and cc_blocks > 0 | SELECT
     ip_to_country ( if ( real_client_ip ='-', remote_addr ,
    real_client_ip )) as country , count ( 1 ) as " number of
     attacks " group by country
    ```
  - For example, the following statement can be used to view PVs:

    ```
    __topic__ : DDoS_access_log | select count ( 1 ) as PV
    ```

- Analyze website operations

  Access logs record information about website traffic in real time. You can use SQL queries to analyze log data and better understand your users. For example, you can identify the most visited web pages, the source IP addresses of the clients, the browsers that initiated the requests, and the distribution of client devices, which can help you analyze website operations.

  For example, the following statement can be used to view the distribution of traffic by ISP:

```
 __topic__ :  DDoS_acces  s_log  |  select   ip_to_prov  ider ( if (
 real_clien  t_ip ='-',  remote_add  r ,  real_clien  t_ip ))  as
 provider ,  round ( sum ( request_le  ngth )/ 1024 . 0 / 1024 . 0 ,
 3 )  as   mb_in   group   by   provider   having   ip_to_prov  ider (
 if ( real_clien  t_ip ='-',  remote_add  r ,  real_clien  t_ip )) <>
''  order   by   mb_in   desc   limit   10
```

4.7.2 Fields

In Anti-DDoS Pro, each log entry consists of a wide variety of fields.

You can query and analyze log data on the Full Log page. Field details are as follows:

Field	Description	Example
__topic__	The topic of the log entry. Default value: ddos_access_log. You cannot change this value.	-
body_bytes_sent	The size of the request body. Unit: byte.	2
content_type	The content type of the body of the request.	application/x-www-form-urlencoded
host	The domain of the origin server.	api.abc.com
http_cookie	The request cookie.	k1=v1;k2=v2
http_referer	The referer of the request. If this field is empty, `-` is displayed.	http://xyz.com

Field	Description	Example
http_user_agent	The user agent of the request.	Dalvik/2.1.0 (Linux; U; Android 7.0; EDI-AL10 Build/HUAWEIEDISON-AL10)
http_x_forwarded_for	The originating IP addresses, including the IP addresses of the client and proxy servers.	-
https	Whether the request is an HTTPS request. · true: The request is an HTTPS request. · false: The request is an HTTP request.	true
matched_host	The domain or wildcard subdomain in the request that matches the domain of the origin server. If no match is found, - is displayed.	*.zhihu.com
real_client_ip	The actual IP address of the client. If the actual IP address is unavailable, - is displayed.	1.2.3.4
isp_line	The network informatio n, such as BGP, China Telecom, and China Unicom.	China Telecom
remote_addr	The client IP address.	1.2.3.4
remote_port	The client port number.	23713
request_length	The length of the request. Unit: byte.	123
request_method	The HTTP request method.	GET
request_time_msec	The time of the request. Unit: milliseconds.	44
request_uri	The request path.	/answers/377971214/banner

Field	Description	Example
server_name	The domain name in the request. If this field is empty, `default` is displayed.	api.abc.com
status	The HTTP status code.	200
time	The time when the log entry is written.	2018-05-02T16:03:59+08:00
cc_action	The action that is used to handle the request, such as none, challenge, pass, close, captcha, wait, login, and n.	close
cc_blocks	Whether the request is blocked by HTTP flood protection. · `1` : The request is blocked. · Otherwise, the request is accepted. Note: In some situations, this field may not exist. The `last_result` field indicates whether the request is blocked by HTTP flood protection.	1

Field	Description	Example
last_result	Whether the request is blocked by HTTP flood protection. · ok: The request is accepted. · failed: The request fails verification or is blocked. Note: In some situations, this field may not exist. The `cc_blocks` field indicates whether the request is blocked by HTTP flood protection.	failed
cc_phase	The HTTP flood protection policy that is used, such as seccookie, server_ip_blacklist, static_whitelist, server_header_blacklist, server_cookie_blacklist, server_args_blacklist, and qps_overmax.	server_ip_blacklist
ua_browser	The browser that initiated the request. Note: In some situations, this field may not exist.	ie9
ua_browser_family	The browser type. Note: In some situations, this field may not exist.	internet explorer

Field	Description	Example
ua_browser_type	Whether the browser is a Web browser, mobile browser, or other. Note: In some situations, this field may not exist.	web_browser
ua_browser_version	The browser version. Note: In some situations, this field may not exist.	9.0
ua_device_type	The type of the client device. Note: In some situations, this field may not exist.	computer
ua_os	The operating system of the client device. Note: In some situations, this field may not exist.	windows_7
ua_os_family	The family of the operating system. Note: In some situations, this field may not exist.	windows
upstream_addr	The list of back-to-origin addresses. The format is `IP : Port`. Multiple addresses are separated by commas (,).	1.2.3.4:443
upstream_ip	The actual back-to-origin IP address.	1.2.3.4

Field	Description	Example
upstream_response_time	The response time when the request is forwarded back to the origin server. Unit: seconds.	0.044
upstream_status	The HTTP status when the request is forwarded back to the origin server.	200
user_id	The Alibaba Cloud account ID.	12345678
querystring	The request string.	token=bbcd&abc=123

4.7.3 Operation logs

You can view operation logs in the last 30 days on the logs page in the new Anti-DDoS Pro console.

Note:
Operation logs only record important operations in the last 30 days.

Recorded operation	Supported
Change the IP of ECS instances	Yes
Deactivate black holes	Yes
Block or unblock traffic	Yes
Change the scrubbing mode of layer 4 traffic	Yes
Change the HTTP flood protection mode	Yes
Change the burstable bandwidth	Yes

4.8 Import and export configurations

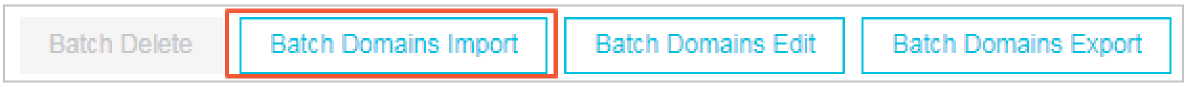
Anti-DDoS Pro provides batch import and export features to help you quickly download or migrate domain configurations and forwarding rules.

- You can import and export layer 4 forwarding rules in TXT files.
- You can import and export domain configurations in XML files, which offer better compatibility. The XML format also provides better readability and extensibility

than the TXT format. Meanwhile, you can import and export the configurations of websites that only have their origin server domain names specified.

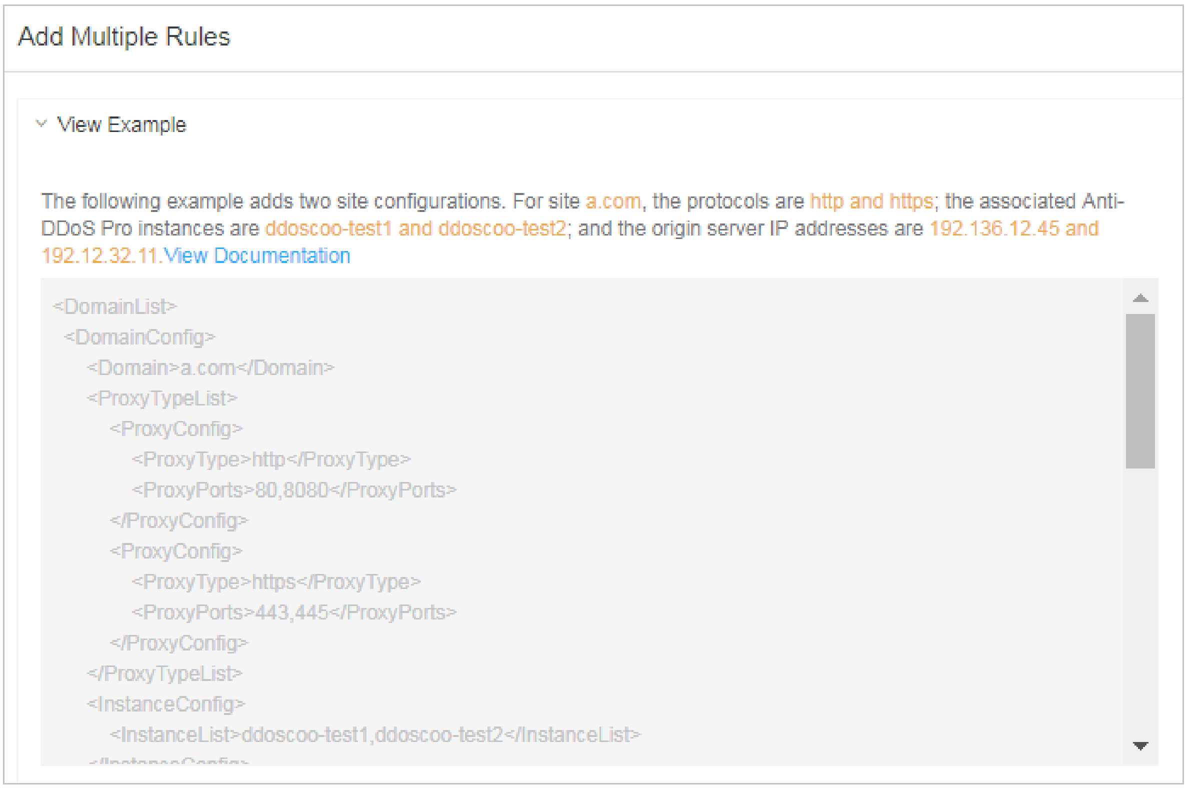
Batch import domain configurations

1. Log on to the Anti-DDoS Pro console.
2. In the left-side navigation pane, choose Management > Websites and click Batch Domains Import at the end of the website list to add multiple domain configurations.



3. In the Add Multiple Rules dialog box that appears, enter the configuration parameters in XML format.

Note:
You can copy and paste the contents of the text box.



The following example adds two site configurations. For site a.com, the protocols are http and https; the associated Anti-DDoS Pro instances are ddoscoo-test1 and ddoscoo-test2; and the origin server IP addresses are 192.136.12.45 and 192.12.32.11.View Documentation

```
<DomainList>
 <DomainConfig>
   <Domain>a.com</Domain>
   <ProxyTypeList>
     <ProxyConfig>
       <ProxyType>http</ProxyType>
       <ProxyPorts>80,8080</ProxyPorts>
     </ProxyConfig>
     <ProxyConfig>
       <ProxyType>https</ProxyType>
       <ProxyPorts>443,445</ProxyPorts>
     </ProxyConfig>
   </ProxyTypeList>
   <InstanceConfig>
     <InstanceList>ddoscoo-test1,ddoscoo-test2</InstanceList>
```

XML format

Each XML file must start with `< DomainList >` and end with `</ DomainList >`. You must enter all domain configurations between these tags. Each domain configuration must start with `< DomainConf ig >` and end with `</ DomainConf`

`ig >`. You must enter all parameters of a domain between these tags. For more information about these parameters, see the following table.

Note:
Each domain configuration corresponds to a `< DomainConf ig >...... </ DomainConf ig >` tag pair.

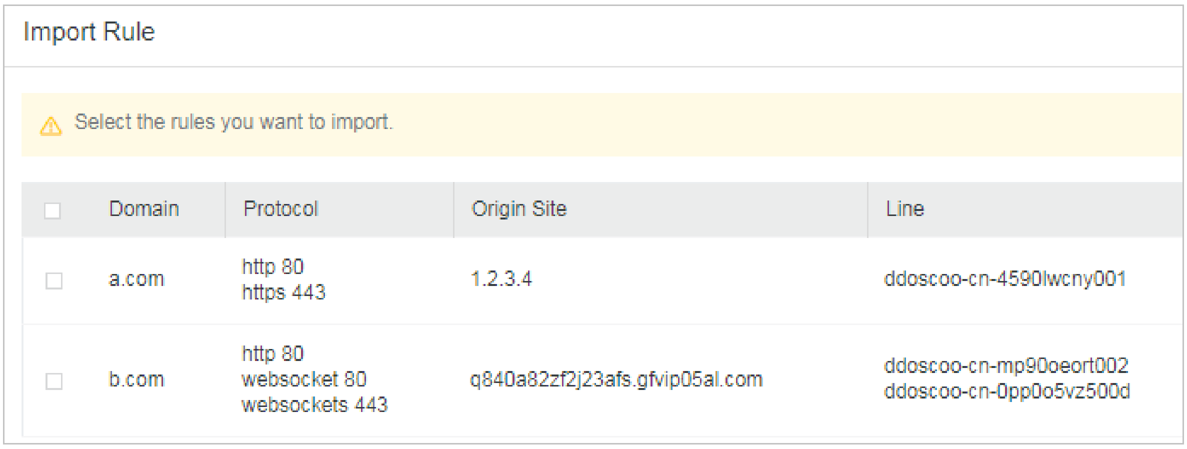
XML parameter	Description
`< Domain > a . com </ Domain >`	The domain to be configured. You can only enter one domain.
`< ProtocolCo nfig >< ProtocolLi st > http , https </ ProtocolLi st ></ ProtocolCo nfig >`	The Web protocols used by the domain . Separate multiple protocols with commas (,). In this example, the protocols used by the domain are HTTP and HTTPS.
`< InstanceCo nfig >< InstanceLi st > ddoscoo - cn - 4590lwcny0 01 </ InstanceLi st ></ InstanceCo nfig >`	The Anti-DDoS Pro instance that is configured for the domain. Note: Each Anti-DDoS Pro instance has only one IP address. You can just enter the instance ID. Separate multiple instance IDs with commas (,).

`< RealServer  Config >< ServerType > 0 </ ServerType >< ServerList > 1 . 2 . 3 . 4 </ ServerList ></ RealServer  Config >`	Information about the origin server . · `< ServerType > 0 </ ServerType >` indicates that the IP address of the origin server is specified. · `< ServerType > 1 </ ServerType >` indicates that the domain of the origin server is specified. `< ServerList > 1 . 2 . 3 . 4 </ ServerList >` indicates the address of the origin server. Separate multiple addresses with commas (,). Note: For each domain, you can only specify either the IP address or the domain of the origin server as the address of the origin server.

Sample

```
< DomainList >
 < DomainConf  ig >
 < Domain > a . com </ Domain >
 < ProtocolCo  nfig >
 < ProtocolLi  st > http , https </ ProtocolLi  st >
 </ ProtocolCo  nfig >
 < InstanceCo  nfig >
 < InstanceLi  st > ddoscoo - cn - 4590lwcny0  01 </ InstanceLi  st
 >
 </ InstanceCo  nfig >
 < RealServer  Config >
 < ServerType > 0 </ ServerType >
 < ServerList > 1 . 2 . 3 . 4 </ ServerList >
 </ RealServer  Config >
 </ DomainConf  ig >
 < DomainConf  ig >
 < Domain > b . com </ Domain >
 < ProtocolCo  nfig >
 < ProtocolLi  st > http , websocket , websockets </ ProtocolLi  st
 >
 </ ProtocolCo  nfig >
 < InstanceCo  nfig >
 < InstanceLi  st > ddoscoo - cn - mp90oeort0  02 , ddoscoo - cn -
 0pp0o5vz50  0d </ InstanceLi  st >
 </ InstanceCo  nfig >
 < RealServer  Config >
 < ServerType > 1 </ ServerType >
 < ServerList > q840a82zf2  j23afs . gfvip05al . com </ ServerList >
 </ RealServer  Config >
 </ DomainConf  ig >
</ DomainList >
```

4. Click Next. If the XML file is correctly formatted, the domain configurations you have entered are displayed.



Import Rule

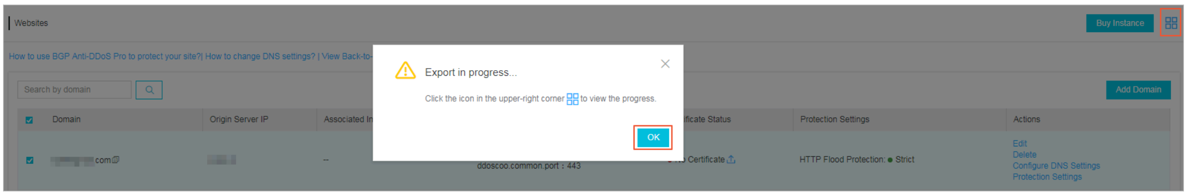
⚠ Select the rules you want to import.

□	Domain	Protocol	Origin Site	Line
□	a.com	http 80 https 443	1.2.3.4	ddoscoo-cn-4590lwcny001
□	b.com	http 80 websocket 80 websockets 443	q840a82zf2j23afs.gfvip05al.com	ddoscoo-cn-mp90oeort002 ddoscoo-cn-0pp0o5vz500d

5. Select the domain configurations you want to import and click OK to import these domain configurations.

Batch export domain configurations

1. In the left-side navigation pane, choose Management > Websites and click Batch Domains Export at the end of the website list. In the dialog box that appears, click OK to export domain configurations.
2. On the Websites page, click the button in the upper-right corner to view the progress of the export task.



⚠ Export in progress...

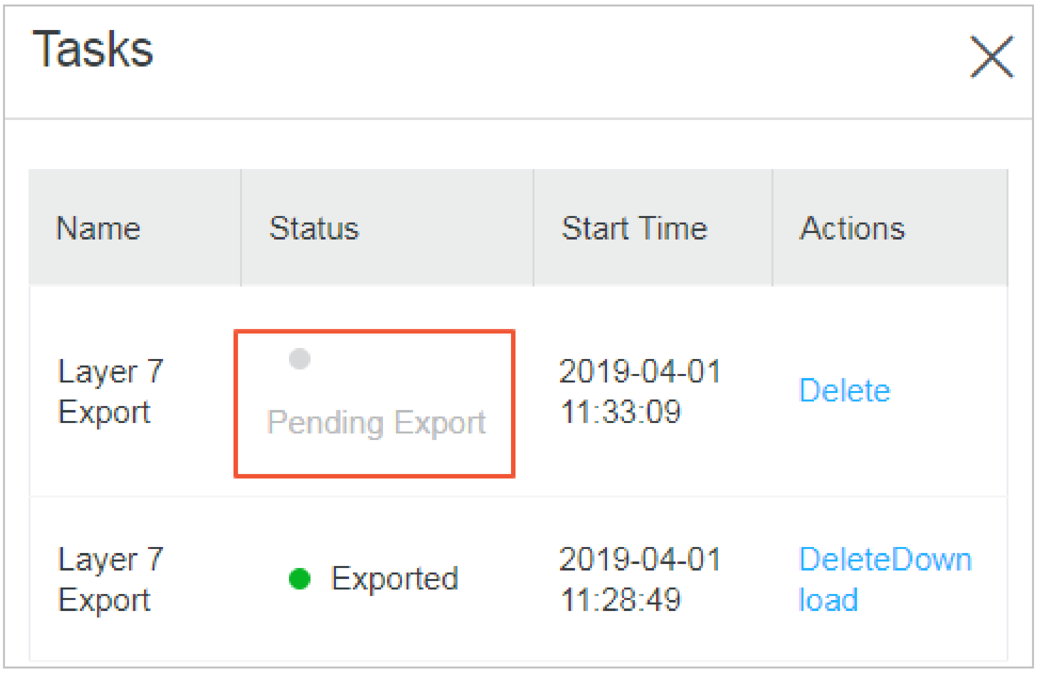
Click the icon in the upper-right corner to view the progress.

OK

3. After the task is complete, click Download in the Tasks dialog box to download domain configurations to your local computer.

Note:

If the task status is Pending Export, wait for the task to complete.



Tasks

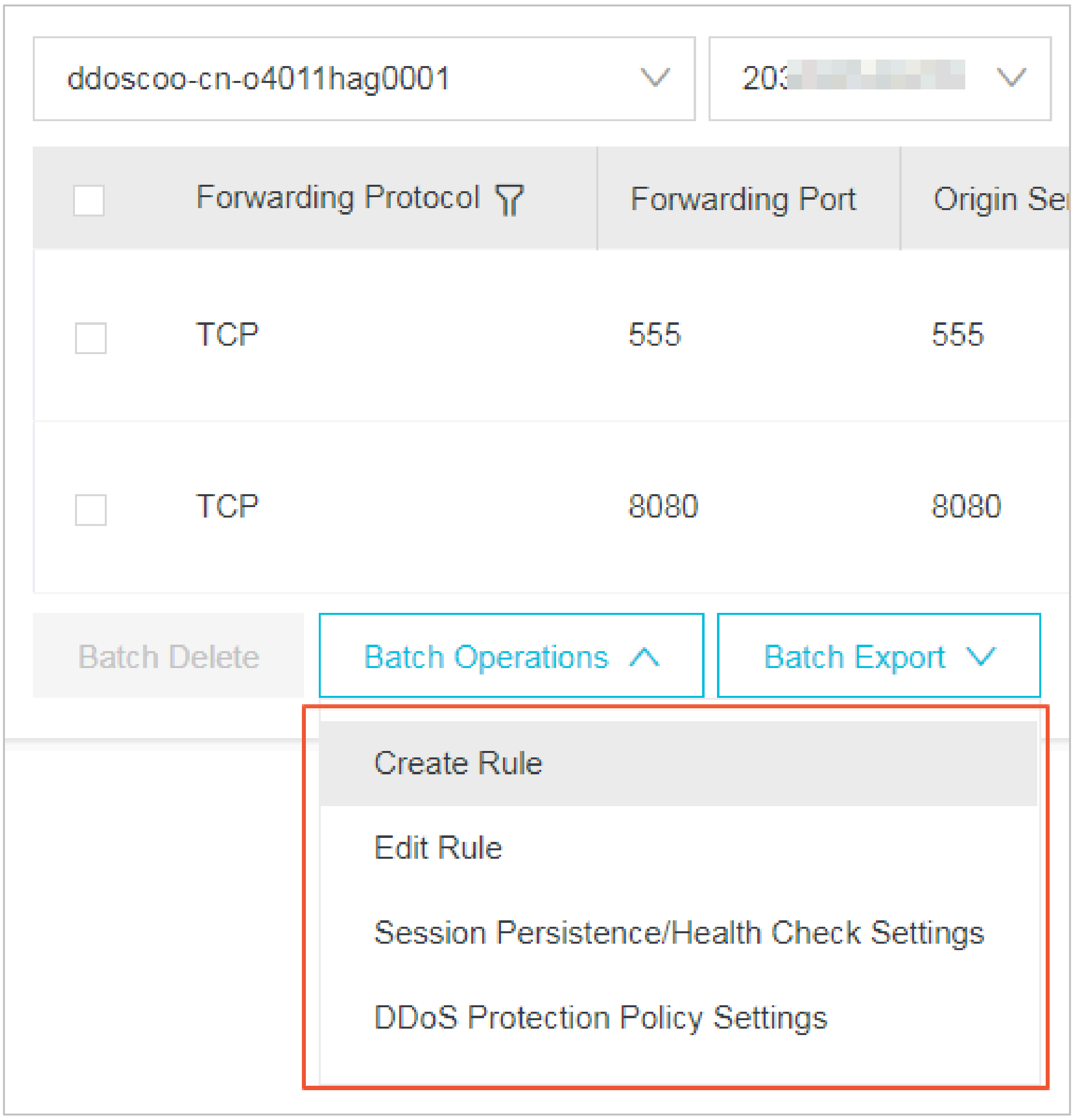
Name	Status	Start Time	Actions
Layer 7 Export	● Pending Export	2019-04-01 11:33:09	Delete
Layer 7 Export	● Exported	2019-04-01 11:28:49	DeleteDownload

Batch import forwarding rules

1. In the left-side navigation pane, choose Management > Port Settings and click Batch Operations at the end of the rules list. Choose Create Rule to configure multiple forwarding rules.

Note:

You can also choose Session Persistence/Health Check or DDoS Protection Policy Settings to add corresponding settings.

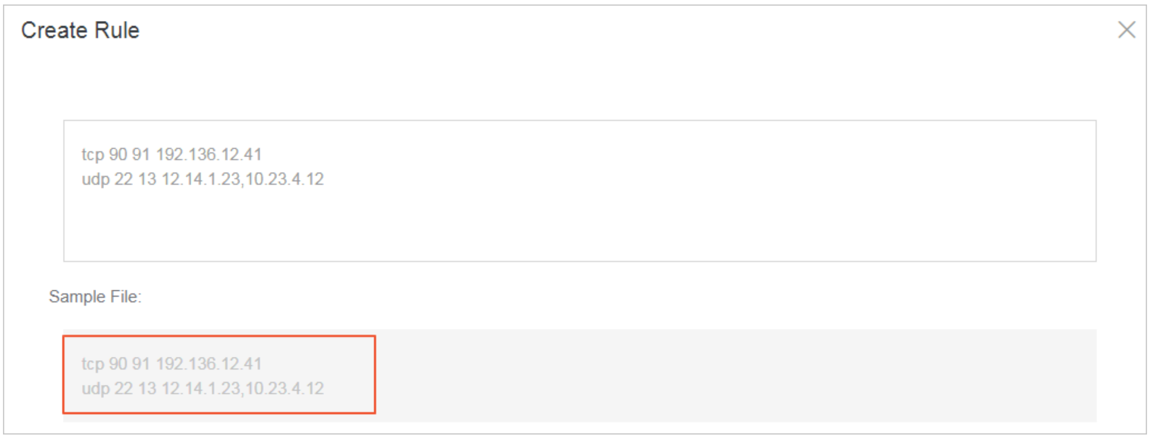


□	Forwarding Protocol	Forwarding Port	Origin Se
□	TCP	555	555
□	TCP	8080	8080

Batch Delete
Batch Operations
Batch Export
Create Rule
Edit Rule
Session Persistence/Health Check Settings
DDoS Protection Policy Settings

2. Follow the given examples to enter rules.

- Create forwarding rules



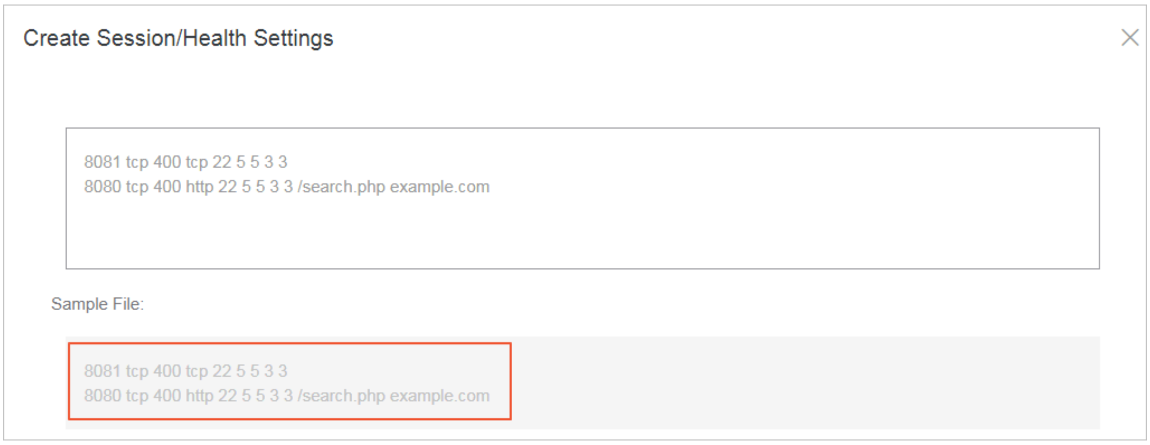
Create Rule

```
tcp 90 91 192.136.12.41
udp 22 13 12.14.1.23,10.23.4.12
```

Sample File:

```
tcp 90 91 192.136.12.41
udp 22 13 12.14.1.23,10.23.4.12
```

- Create session persistence/health check settings



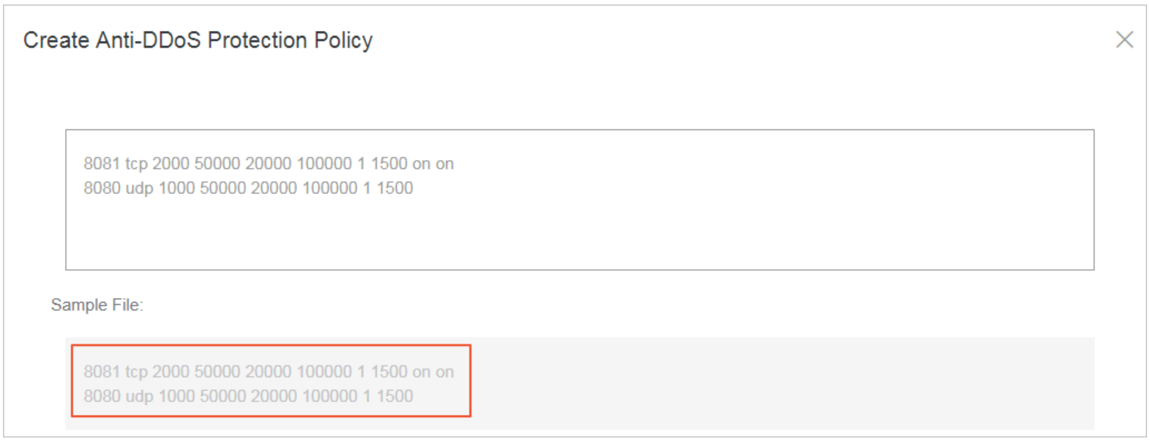
Create Session/Health Settings

```
8081 tcp 400 tcp 22 5 5 3 3
8080 tcp 400 http 22 5 5 3 3 /search.php example.com
```

Sample File:

```
8081 tcp 400 tcp 22 5 5 3 3
8080 tcp 400 http 22 5 5 3 3 /search.php example.com
```

- Create anti-DDoS protection policies



Create Anti-DDoS Protection Policy

```
8081 tcp 2000 50000 20000 100000 1 1500 on on
8080 udp 1000 50000 20000 100000 1 1500
```

Sample File:

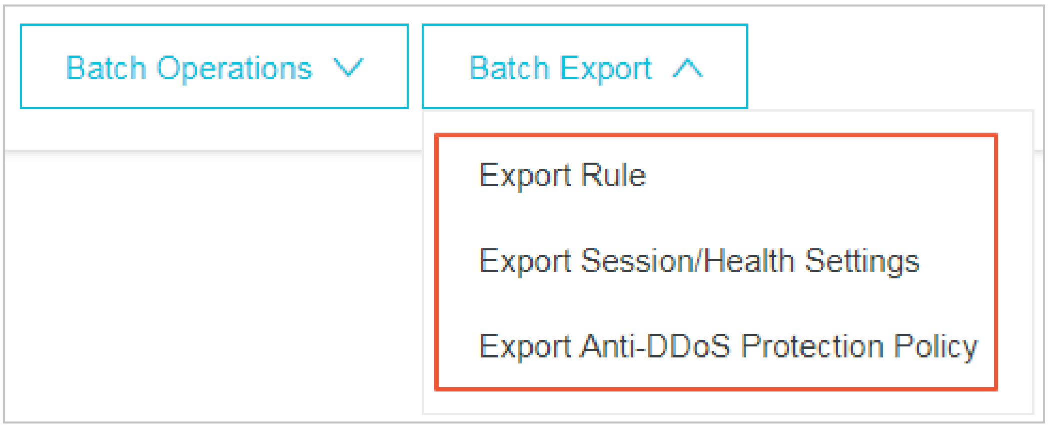
```
8081 tcp 2000 50000 20000 100000 1 1500 on on
8080 udp 1000 50000 20000 100000 1 1500
```

3. Click OK to add settings.

Batch export forwarding rules

1. In the left-side navigation pane, choose Management > Port Settings and click Batch Export at the end of the rules list. Choose Export Rule and click OK to export forwarding rules.

    Note:
    You can also choose Export Session/Health Settings or Export Anti-DDoS Protection Policy to export corresponding settings.

    
    Batch Operations
    Batch Export
    Export Rule
    Export Session/Health Settings
    Export Anti-DDoS Protection Policy

2. On the Port Settings page, click the button in the upper-right corner to view the progress of the export task.
3. After the task is complete, click Download in the Tasks dialog box to download forwarding rules to your local computer.

    Note:
    If the task status is Pending Export, wait for the task to complete.

5 Managed Security Service

Anti-DDoS Pro provides free one-on-one consulting services to help you make full use of the features and benefits offered by Anti-DDoS Pro.

Context

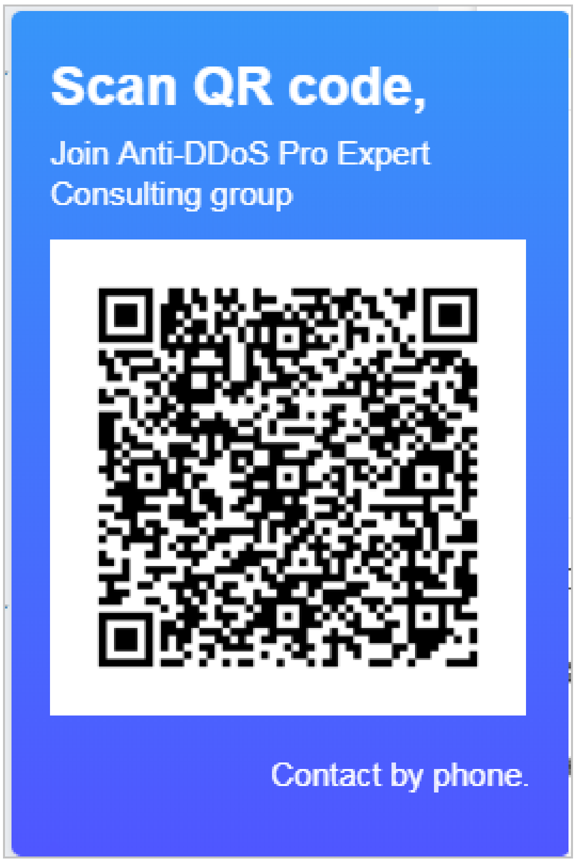
If you have any issues using Anti-DDoS Pro, join the Anti-DDoS Pro consulting group in DingTalk through the Anti-DDoS Pro console.

Our experienced secruity professionals will aid you in resolving your issues in a timely manner.

Procedure

1. Log on to the Anti-DDoS Pro console.
2. Click the Technical Support icon, open the DingTalk app on your phone, and scan the QR code to join the Anti-DDoS Pro consulting group.

> Note:
> You can find the Technical Support icon in the lower left-side navigation pane.



3. After you join the DingTalk group, our security professionals will provide you with one-on-one assistance to help you resolve any issues regarding Anti-DDoS Pro.

   Note:

   You can also click Contact by phone and leave your contact number. Security professionals will contact you as soon as possible.

6 API Reference

6.1 API overview

This topic summarizes all callable Anti-DDoS Pro APIs. For more information about each API, see the corresponding topics.

For more information about API resources, visit API Explorer.

Instances

API	Description
DescribeInstances	Query all instances.
DescribeInstanceDetails	Query instance details.
DescribeInstanceSpecs	Query instance configurations.
DescribeInstanceStatistics	Query rules configured on instances.
DescribeElasticBandwidthSpec	Query the burstable bandwidth of instances.
ModifyElasticBandWidth	Modify the burstable bandwidth of instances.
ModifyInstanceRemark	Modify the remarks on instances.

Layer 4 rules

API	Description
CreateLayer4Rule	Create layer 4 forwarding rules.
ConfigLayer4Rule	Edit layer 4 forwarding rules.
DeleteLayer4Rule	Delete layer 4 forwarding rules.
ConfigLayer4RuleAttribute	Configure the attributes of layer 4 forwarding rules, including session persistence and anti-DDoS protection policies.
ConfigHealthCheck	Configure layer 4 or layer 7 health check.
DescribeLayer4Rules	Query layer 4 forwarding rules.

DescribeLayer4RuleAttributes	Query the attributes of layer 4 forwarding rules, including session persistence and anti-DDoS protection policies.
DescribeHealthCheckList	Query layer 4 or layer 7 health check settings.
DescribeHealthCheckStatusList	Query health check status.

Layer 7 rules

API	Description
DescribeDomains	Query layer 7 forwarding rules.
CreateLayer7Rule	Create layer 7 forwarding rules.
ConfigLayer7Rule	Edit layer 7 forwarding rules.
DeleteLayer7Rule	Delete layer 7 forwarding rules.
ConfigLayer7Cert	Configure certificates.
ConfigLayer7BlackWhiteList	Configure the blacklist and whitelist.
DescribleLayer7InstanceRelations	Query instances by domain.
DescribleCertList	Query certificates.
EnableLayer7CC	Enable layer 7 HTTP flood protection.
DisableLayer7CC	Disable layer 7 HTTP flood protection.
EnableLayer7CCRule	Enable layer 7 HTTP flood protection rules.
DisableLayer7CCRule	Disable layer 7 HTTP flood protection rules.
AddLayer7CCRule	Add layer 7 HTTP flood protection rules.
ConfigLayer7CCRule	Edit layer 7 HTTP flood protection rules.
DescribeLayer7CCRules	Query layer 7 HTTP flood protection rules.
DeleteLayer7CCRule	Delete layer 7 HTTP flood protection rules.
ConfigLayer7CCTemplate	Set the mode of layer 7 HTTP flood protection.
DescribeDomainAccessMode	Query the modes that are used to set up instances.

ConfigDomainAccessMode	Configure the modes that are used to set up instances.
DescribeBackSourceCidr	Query back-to-origin CIDR blocks.

Tasks

API	Description
ListAsyncTask	Query asynchronous tasks.
CreateAsyncTask	Create asynchronous tasks.
DeleteAsyncTask	Delete asynchronous tasks.

Logs

API	Description
DescribeOpEntities	Query operation logs.

6.2 Use the API

When an API call is made, an HTTP GET request is sent to the endpoint of the API. You need to specify request parameters in the request. A response is then returned in reply to the request. The request and response are encoded using the UTF-8 character set.

Request structure

Anti-DDoS Pro APIs support RPC-type Web services. You can send HTTP GET requests to make API calls.

The request structure is as follows:

```
https :// Endpoint /? Action = xx & Parameters
```

In the example:

- `Endpoint` indicates the endpoint of Anti-DDoS Pro APIs. The current endpoint is `ddoscoo . cn - hangzhou . aliyuncs . com`.
- `Action` indicates the action that you want to perform. For example, you can call `DescribeIn stances` to perform queries on all Anti-DDoS Pro instances.
- `Version` indicates the version of the API. The current version of Anti-DDoS Pro APIs is `2017 - 12 - 28`.

- `Parameters` indicates the request parameters. Separate multiple parameters with ampersands (&).
- Request parameters consist of common parameters and API specific parameters. Common parameters include variables such as the API version and credentials. For more information, see Common parameters.

The following example calls the DescribeInstances operation to perform queries on Anti-DDoS Pro instances:

Note:

The sample code has been formatted to make it more readable.

```
 https :// ddoscoo . cn - hangzhou . aliyuncs . com /? Action =
 DescribeIn  stances
& Region = cn
& InstanceId = ddoscoo - cn - XXXX1
& Format = xml
& Version = 2017 - 12 - 28
& Signature = xxxx % xxxx % 3D
& SignatureM  ethod = HMAC - SHA1
& SignatureN  once = 1521552885  2396
& SignatureV  ersion = 1 . 0
& AccessKeyI  d = key - test
& TimeStamp = 2012 - 06 - 01T12 : 00 : 00Z
…
```

Authorization

To ensure the security of your Alibaba Cloud account, we recommend that you call the APIs as a RAM user. Before you can use a RAM user to call the APIs, you must create a RAM user account and grant corresponding permissions to this account.

Signature

Anti-DDoS Pro requires identity authentication for each API request. You must include signature information in either HTTP or HTTPS requests. For more information about the signature calculation process, see RPC API signatures.

Anti-DDoS Pro implements symmetric encryption through AccessKey ID and AccessKey Secret to authenticate the requester. AccessKey is an identity credential issued to Alibaba Cloud accounts and RAM users (similar to the login password). The AccessKey ID is used to identify the user. The AccessKey Secret is used to encrypt the signature string on the client side and to verify the signature string on the server side . The AccessKey Secret must be kept strictly confidential.

When you call an RPC API, you need to add the signature to your request using the following format:

```
https :// endpoint /? SignatureV  ersion = 1 . 0 & SignatureM  ethod
= HMAC - SHA1 & Signature = CT9X0VtwR8  6fNWSnsc6v  8YGOjuE % 3D &
SignatureN  once = 3ee8c1b8 - 83d3 - 44af - a94f - 4e0ad82fd6  cf
```

Take DescribeInstances as an example. Assume that the AccessKey ID is testid and the AccessKey Secret is testsecret. The original request URL is as follows:

```
 https :// ddoscoo . cn - hangzhou . aliyuncs . com /? Action =
 DescribeIn  stances
& Region = cn
& InstanceId = ddoscoo - cn - XXXX1
& TimeStamp = 2016 - 02 - 23T12 : 46 : 24Z
& Format = XML
& AccessKeyI  d = testid
& SignatureM  ethod = HMAC - SHA1
& SignatureN  once = 3ee8c1b8 - 83d3 - 44af - a94f - 4e0ad82fd6  cf
& Version = 2017 - 12 - 28
& SignatureV  ersion = 1 . 0
```

Perform the following steps to calculate the signature:

1. Use the request parameters to create the string to be signed.

   ```
   GET &% 2F & AccessKeyI  d % 3Dtestid & Action % 3DDescribe
   DomainName  s & Region % 3Dcn & InstanceId % 3Dwaf_elas  ticity -
   cn - 0xldbqtm00  5 & Format % 3DXML & SignatureM  ethod % 3DHMAC
   - SHA1 & SignatureN  once % 3D3ee8c1b8 - 83d3 - 44af - a94f -
   4e0ad82fd6  cf & SignatureV  ersion % 3D1 . 0 & TimeStamp % 3D2016
   - 02 - 23T12 % 253A46 % 253A24Z & Version % 3D2018 - 01 - 17
   ```

2. Calculate the HMAC value of the string.

   Append an ampersand (&) to the AccessKey Secret and use this string as the key to calculate the HMAC value. In this example, the key is `testsecret &`.

   ```
   CT9X0VtwR8  6fNWSnsc6v  8YGOjuE =
   ```

3. Add the signature to the request URL:

   ```
    https :// ddoscoo . cn - hangzhou . aliyuncs . com /? Action =
    DescribeIn  stances
   & Region = cn
   & InstanceId = ddoscoo - cn - XXXX1
   & TimeStamp = 2016 - 02 - 23T12 : 46 : 24Z
   & Format = XML
   & AccessKeyI  d = testid
   & SignatureM  ethod = HMAC - SHA1
   & SignatureN  once = 3ee8c1b8 - 83d3 - 44af - a94f - 4e0ad82fd6  cf

   & Version = 2017 - 12 - 28
   & SignatureV  ersion = 1 . 0
   ```

```
& Signature = CT9X0VtwR8  6fNWSnsc6v  8YGOjuE % 3D
```

6.3 Common parameters

This topic describes the common parameters required by Anti-DDoS Pro APIs.

Common request parameters

Common request parameters refer to the request parameters that all APIs require.

Name	Type	Required	Description
Region	String	Yes	The region where the Anti-DDoS Pro instance is located. Valid value: cn - hangzhou .
InstanceId	String	Yes	The ID of the Anti-DDoS Pro instance.
Format	String	No	The format of the response. Valid value (default): · JSON · XML
Version	String	Yes	The version of the API in the format of YYYY-MM-DD. Valid value: 2017 - 12 - 28 .
AccessKeyId	String	Yes	The AccessKey ID of the API caller.
Signature	String	Yes	The signature of the request.
SignatureMethod	String	Yes	The algorithm that is used to calculate the signature. Valid value: HMAC - SHA1 .
Timestamp	String	Yes	The timestamp when the request is signed. The UTC time in ISO-8601 format: YYYY - MM - DDThh : mm : ssZ . For example, 2013 - 01 - 10T12 : 00 : 00Z indicates 20:00:00, January 10, 2013 Beijing time.
SignatureVersion	String	Yes	The version of the signature algorithm. Valid value: 1 .
SignatureNonce	String	Yes	The unique random number that is used to prevent replay attacks. You must use different random numbers for different requests.
ResourceOwnerAccount	String	No	The account owner of the requested resources. Set the value to the logon username.

Examples

```
 https :// ddoscoo . cn - hangzhou . aliyuncs . com /? Action =
 DescribeIn  stances
& Region = cn
& InstanceId = ddoscoo - cn - XXXX1
& Timestamp = 2014 - 05 - 19T10 % 3A33 % 3A56Z
& Format = xml
& AccessKeyI  d = testid
& SignatureM  ethod = Hmac - SHA1
& SignatureN  once = NwDAxvLU6t  FE0DVb
& Version = 2017 - 12 - 28
& SignatureV  ersion = 1 . 0
& Signature = Signature
```

Common response parameters

The API response uses a unified format. A 2XX HTTP status code is returned if the call is successful. A 4xx or 5xx HTTP status code is returned if the call has failed. The responses can be returned in JSON or XML format. The XML format is used by default . You can specify the format when calling an API.

Each time you send an API call, the system returns a unique identifier RequestId, no matter whether the invocation is successful or not.

- XML format

```
<?  xml   version =" 1 . 0 "  encoding =" utf - 8 "? >
    <!— The   root   node   of   the   response -->
    < API   name + Response >
        <!— The   request   tag   returned -->
        < RequestId > 4C467B38 - 3910 - 447D - 87BC - AC049166F2  16
 </ RequestId >
        <!— The   response   data -->
    </ API   name + Response >
```

- JSON format

```
{
    " RequestId ":" 4C467B38 - 3910 - 447D - 87BC - AC049166F2  16
 ",
    /* The   response   data */
    }
```

6.4 Instances

6.4.1 DescribeInstances

You can call this operation to perform queries on Anti-DDoS Pro instances.

Request parameters

Name	Type	Required	Description
`InstanceIds`	String	No	The array of IDs of Anti-DDoS Pro instances represented as a JSON string. Exact match is supported. For example, `[" ddoscoo - cn - XXXX1 ", " ddoscoo - cn - XXXX2 "]`. Note: If this parameter is specified, `Ip` or `Remark` is not needed.
`Ip`	String	No	The IP addresses of Anti-DDoS Pro instances. Exact match is supported. Note: If this parameter is specified, `InstanceIds` or `Remark` is not needed.
`Remark`	String	No	The remarks on the Anti-DDoS Pro instances. Fuzzy match is supported. Note: If this parameter is specified, `InstanceIds` or `Ip` is not needed.
`PageNo`	Integer	Yes	The number of the starting page returned in the query result. Minimum value: `1` .
`PageSize`	Integer	Yes	The number of result records per page. Maximum value: `50` .

Response parameters

Name	Type	Description
`Total`	Integer	The total number of Anti-DDoS Pro instances.

Name	Type	Description
`Instances`	Instance	The list of Anti-DDoS Pro instances. For more information, see instance.
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Table 6-1: instance

Name	Type	Description
`InstanceId`	String	The ID of the Anti-DDoS Pro instance.
`Remark`	String	The remark on the Anti-DDoS Pro instance. Maximum length: 500 bytes.
`Status`	Integer	The subscription status of the Anti-DDoS Pro instance. · `1` : Indicates that the subscription of the instance is valid. · `2` : Indicates that the subscription of the instance has expired. · `3` : Indicates that the instance has been released.
`ExpireTime`	Long	The timestamp when the subscription of the instance expires. Unit: milliseconds.
`GmtCreate`	Long	The timestamp when the instance was created. Unit: milliseconds.

Examples

Sample requests

```
{
  " InstanceId  s ": "[\" 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx
 bc \",\" 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc \"]",
  " PageNo ":  1 ,
  " PageSize ":  1
}
```

Sample responses

```
{
  " Total ":  1 ,
  " Instances ": [
    {
      " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc
 ",
      " Remark ": " xxx ",
      " Status ":  1 ,
      " ExpireTime ":  20384032 ,
      " GmtCreate ":  2308402384
    }
  ],
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.4.2 DescribeInstanceDetails

You can call this operation to perform queries on instance details.

Request parameters

Name	Type	Required	Description
InstanceIds	String	Yes	The array of IDs of Anti-DDoS Pro instances represented as a JSON string.

Response parameters

Name	Type	Description
InstanceDetails	InstanceDetail	The list of instance details. For more information, see InstanceDetail.
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Table 6-2: InstanceDetail

Name	Type	Description
InstanceId	String	The ID of the Anti-DDoS Pro instance.
Line	String	The network lines used by the instance. For example, coop - line - 001 .
[] EipInfoList	EipInfo	The list of EIPs that are associated with the instance. For more information, see EipInfo.

Table 6-3: EipInfo

Name	Type	Description
Eip	String	The elastic IP address.

Name	Type	Description
`Status`	String	The status of the EIP. Valid values: · `normal` : Indicates that the instance is running correctly. · `cleaning` : Indicates that the instance is scrubbing traffic. · `blackhole` : Indicates that the instance is routing traffic to a black hole.

Examples

Sample requests

```
{
  " InstanceId  s ": "[\" 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx
 bc \",\" 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc \"]"
}
```

Sample responses

```
{
  " InstanceDe  tails ": [
    {
      " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc
 ",
      " Line ": " coop - line - 001 ",
      " EipInfoLis  t ": [
        {
          " Eip ": " 1 . 1 . 1 . 1 ",
          " Status ": " normal "
        }
      ]
    }
  ],
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.4.3 DescribeInstanceSpecs

You can call this operation to perform queries on the configurations of Anti-DDoS Pro instances.

Request parameters

Name	Type	Required	Description
`InstanceIds`	String	Yes	The array of IDs of Anti-DDoS Pro instances represented as a JSON string.

Response parameters

Name	Type	Description
InstanceSpecs	InstanceSpec	The configurations of the instances. For more information, see InstanceSpec.
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Table 6-4: InstanceSpec

Name	Type	Description
InstanceId	String	The ID of the Anti-DDoS Pro instance.
BaseBandwidth	Integer	The basic bandwidth of the instance.
ElasticBandwidth	Integer	The burstable bandwidth of the instance.
PortLimit	Integer	The limit on the number of layer 4 forwarding rules on the instance.
DomainLimit	Integer	The limit on the number of layer 7 forwarding rules on the instance.
BandwidthMbps	Integer	The service bandwidth of the instance.

Examples

Sample requests

```
{
  " InstanceId  s ": "[\" 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx
 bc \",\" 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc \"]"
}
```

Sample responses

```
{
  " InstanceSp  ecs ": [
    {
      " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc
 ",
      " BaseBandwi  dth ":  20 ,
      " ElasticBan  dwidth ":  10 ,
      " PortLimit ": 10 ,
      " DomainLimi  t ":  20 ,
      " BandwidthM  bps ":  100
    }
  ],
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.4.4 DescribeInstanceStatistics

You can call this operation to perform queries on the rules configured on instances.

Request parameters

Name	Type	Required	Description
InstanceIds	String	Yes	The array of IDs of Anti-DDoS Pro instances represented as a JSON string.

Response parameters

Name	Type	Description
InstanceStatistics	InstanceStatistic	The details of the rules on Anti-DDoS Pro instances. For more information, see InstanceStatistic.
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Table 6-5: InstanceStatistic

Name	Type	Description
InstanceId	String	The ID of the Anti-DDoS Pro instance.
PortUsage	Integer	The number of layer 4 forwarding rules configured on the instance.
DomainUsage	Integer	The number of layer 7 forwarding rules configured on the instance.

Examples

Sample requests

```
{
  " InstanceId  s ": "[\" 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx
 bc \",\" 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc \"]"
}
```

Sample responses

```
{
  " InstanceSt  atistics ": [
    {
      " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc
 ",
      " PortUsage ":  20 ,
      " DomainUsag  e ":  10
    }
  ],
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.4.5 DescribeElasticBandwidthSpec

You can call this operation to perform queries on the burstable bandwidth of Anti-DDoS Pro instances.

Request parameters

Name	Type	Required	Description
InstanceId	String	Yes	The ID of the Anti-DDoS Pro instance. You can only query the burstable bandwidth of one instance at a time.

Response parameters

Name	Type	Description
RequestId	String	The GUID generated by Alibaba Cloud for the request.
ElasticBandwidthSpec	Integer array	The burstable bandwidth of the instance.

Examples

Sample requests

```
{
  " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

Sample responses

```
{
  " ElasticBan  dwidthSpec ": [ 5 , 10 , 20 , 30 ],
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.4.6 ModifyElasticBandWidth

You can call this operation to modify the burstable bandwidth of Anti-DDoS Pro instances.

Request parameters

Name	Type	Required	Description
`InstanceId`	String	Yes	The ID of the Anti-DDoS Pro instance. You can only modify the burstable bandwidth of one instance at a time and the instance must be in normal status.
`ElasticBandwidth`	Integer	Yes	The new burstable bandwidth.

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc ",
  " ElasticBan  dwidth ":  50
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.4.7 ModifyInstanceRemark

You can call this operation to modify the remarks on instances.

Request parameters

Name	Type	Required	Description
`InstanceId`	String	Yes	The ID of the Anti-DDoS Pro instance. You can only modify the remark on one instance at a time.

Name	Type	Required	Description
Remark	String	Yes	The new remark.

Response parameters

Name	Type	Description
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc ",
  " Remark ": " huadong2 "
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.5 Layer 4 rules

6.5.1 CreateLayer4Rule

You can call this operation to create layer 4 forwarding rules.

Request parameters

Name	Type	Required	Description
Listeners	String	Yes	The array of listeners that you want to create represented as a JSON string. For more information, see Listener.

Table 6-6: Listener

Name	Type	Required	Description
InstanceId	String	Yes	The ID of the Anti-DDoS Pro instance that you want to change settings for.
Protocol	String	Yes	The listener protocol.
FrontendPort	Integer	Yes	The port for front-end (client to Anti-DDoS Pro) connections. Valid values: 0-65535.

Name	Type	Required	Description
`BackendPort`	Integer	Yes	The port for back-end (Anti-DDoS Pro to origin server) connections. Valid values: 0-65535.
`RealServers`	JSON array	Yes	The IP addresses of the origin servers.

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Listeners ": "[{\" InstanceId \":\" 0bcf28g5 - d57c - 11e7 - 9bs0
 - d89d6717dx  bc \",\" Protocol \":\" tcp \",\" FrontendPo  rt \": 80
 ,\" BackendPor  t \": 5 ,\" RealServer  s \":[\" 1 . 1 . 1 . 1 \",\"
 2 . 2 . 2 . 2 \"]}]"
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.5.2 ConfigLayer4Rule

You can call this operation to edit layer 4 forwarding rules.

Request parameters

Name	Type	Required	Description
`Listeners`	String	Yes	The array of listeners that you want to edit represented as a JSON string. For more information, see Listener.

Table 6-7: Listener

Name	Type	Required	Description
`InstanceId`	String	Yes	The ID of the Anti-DDoS Pro instance that you want to change settings for.

Name	Type	Required	Description
`Protocol`	String	Yes	The listener protocol.
`FrontendPort`	Integer	Yes	The port for front-end (client to Anti-DDoS Pro) connections. Valid values: 0-65535.
`BackendPort`	Integer	Yes	The port for back-end (Anti-DDoS Pro to origin server) connections. Valid values: 0-65535.
`RealServers`	JSON array	Yes	The IP addresses of the origin servers.

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Listeners ": "[{\" InstanceId \":\" 0bcf28g5 - d57c - 11e7 - 9bs0
 - d89d6717dx  bc \",\" Protocol \":\" tcp \",\" FrontendPo  rt \": 80
 ,\" BackendPor  t \": 5 ,\" RealServer  s \":[\" 1 . 1 . 1 . 1 \",\"
 2 . 2 . 2 . 2 \"]}]"
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.5.3 DeleteLayer4Rule

You can call this operation to delete layer 4 forwarding rules.

Request parameters

Name	Type	Required	Description
`Listeners`	String	Yes	The listener that you want to delete represented as a JSON string. For more information, see Listener. Note: Currently, you can only delete one listener at a time.

Table 6-8: Listener

Name	Type	Required	Description
`InstanceId`	String	Yes	The ID of the Anti-DDoS Pro instance that you want to change settings for.
`Protocol`	String	Required	The listener protocol.
`FrontendPort`	Integer	Yes	The port for front-end (client to Anti-DDoS Pro) connections. Valid values: 0-65535.

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Listeners ": "[{\" InstanceId \":\" 0bcf28g5 - d57c - 11e7 - 9bs0
 - d89d6717dx  bc \",\" Protocol \":\" tcp \",\" FrontendPo  rt \": 80
 }]"
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.5.4 ConfigLayer4RuleAttribute

You can call this operation to set the attributes of layer 4 forwarding rules, including session persistence and anti-DDoS protection policies.

Request parameters

Name	Type	Required	Description
`InstanceId`	String	Yes	The ID of the Anti-DDoS Pro instance that you want to change settings for.
`ForwardProtocol`	String	Yes	The forwarding protocol. Valid values: `TCP` and `UDP` .
`FrontendPort`	Integer	Yes	The port for front-end connections.
`Config`	String	Yes	The configuration information. You may specify a TcpConfig or UdpConfig object represented as a JSON string. For more information, see TcpConfig and UdpConfig.

Table 6-9: TcpConfig

Name	Type	Required	Description
`PersistenceTimeout`	Integer	Yes	The session timeout. Unit: seconds. Default value: `0` . A value of 0 indicates that session persistence is disabled.
`Synproxy`	String	Yes	The false sources feature of anti-DDoS protection. Valid values: `off` and `on` .
`NodataConn`	String	Yes	The null session connections feature of anti-DDoS protection. Valid values: `off` and `on` .
`Sla`	Sla	Yes	The connection limit on destination IPs. For more information, see Sla.
`Slimit`	Slimit	Yes	The connection limit on source IPs. For more information, see Slimit.
`PayloadLen`	PayloadLen	Yes	The limit on the payload size of each packet. For more information, see PayloadLen.

Table 6-10: UdpConfig

Name	Type	Required	Description
PersistenceTimeout	Integer	Yes	The session timeout. Unit: seconds. Default value: `0` . A value of 0 indicates that session persistence is disabled.
Synproxy	String	Yes	The false sources feature of anti-DDoS protection. Valid values: `off` and `on` .
NodataConn	String	Yes	The null session connections feature of anti-DDoS protection. Valid values: `off` and `on` .
Sla	Sla	Yes	The connection limit on destination IPs. For more information, see Sla.
Slimit	Slimit	Yes	The connection limit on source IPs. For more information, see Slimit.
PayloadLen	PayloadLen	Yes	The limit on the payload size of each packet. For more information, see PayloadLen.

Table 6-11: Sla

Name	Type	Required	Description
Cps	Integer	Yes	The maximum number of new connections per second to a single destination IP and port . Valid values: 100-100,000.
Maxconn	Integer	Yes	The maximum number of concurrent connections to a single destination IP and port. Valid values: 1,000-1,000,000.
CpsEnable	Integer	No	Indicates whether Cps is enabled. Valid values: · `0` : Disabled · `1` (Default): Enabled
MaxconnEnable	Integer	No	Indicates whether Maxconnection is enabled. Valid values: · `0` : Disabled · `1` (Default): Enabled

Table 6-12: Slimit

Name	Type	Required	Description
`Cps`	Integer	Yes	The maximum number of new connection s per second from a single source IP. Valid values: 100-100,000.
`Maxconn`	Integer	Yes	The maximum number of concurrent connections from a single source IP. Valid values: 1,000-1,000,000.
`CpsEnable`	Integer	No	Indicates whether Cps is enabled. Valid values: · `0` : Disabled · `1` (Default): Enabled
`MaxconnEnable`	Integer	No	Indicates whether Maxconnection is enabled. Valid values: · `0` : Disabled · `1` (Default): Enabled

Table 6-13: PayloadLen

Name	Type	Required	Description
`Min`	Integer	Yes	The minimum payload size of a packet.
`Max`	Integer	Yes	The maximum payload size of a packet.

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc ",
  " ForwardPro  tocol ": " tcp ",
  " FrontendPo  rt ":  80 ,
  " Config ": "{\" Persistenc  eTimeout \": 80 ,\" Synproxy \":\"
 off \",\" NodataConn \":\" off \",\" Sla \":{\" Cps \": 10 ,\"
 Maxconn \": 10 },\" Slimit \":{\" Cps \": 10 ,\" Maxconn \": 30 },\"
 PayloadLen \":{\" Min \": 1 ,\" Max \": 2 }}"
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.5.5 ConfigHealthCheck

You can call this operation to configure layer 4 or layer 7 health check settings.

Request parameters

Name	Type	Required	Description
`InstanceId`	String	Yes	The ID of the Anti-DDoS Pro instance that you want to change settings for.
`ForwardProtocol`	String	Yes	The forwarding protocol. Valid values: · `TCP` (Layer 4) · `UDP` (Layer 4) · `HTTP` (Layer 7)
`FrontendPort`	Integer	Yes	The port for front-end connections.
`HealthCheck`	String	Yes	The HealthCheck objects represented as a JSON string. For more information, see HealthCheck.

Table 6-14: HealthCheck

Name	Type	Required	Description
`Type`	String	Yes	The listener protocol. Valid values: · `TCP` : Layer 4 · `HTTP` : Layer 7
`Domain`	String	No	In layer 7 health check, the domain name.
`Uri`	String	No	In layer 7 health check, the URI path.
`Timeout`	Integer	No	In layer 4 health check, the response timeout.
`Port`	Integer	No	In layer 4 health check, the port that is used to connect with the origin server.
`Interval`	Integer	No	In layer 4 health check, the time interval between health checks.

Name	Type	Required	Description
Up	Integer	No	In layer 4 health check, the healthy threshold.
Down	Integer	No	In layer 4 health check, the unhealthy threshold.

Response parameters

Name	Type	Description
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc ",
  " ForwardPro  tocol ": " tcp ",
  " FrontendPo  rt ":  80 ,
  " HealthChec  k ": "{\" Type \":\" tcp \",\" Timeout \": 10 ,\" Port
 \": 80 ,\" Interval \": 10 ,\" Up \": 10 ,\" Down \": 40 }"
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.5.6 DescribeLayer4Rules

You can call this operation to perform queries on layer 4 forwarding rules of Anti-DDoS Pro instances.

Request parameters

Name	Type	Required	Description
InstanceId	String	Yes	The ID of the Anti-DDoS Pro instance that you want to query.
ForwardProtocol	String	No	The forwarding protocol. Valid value: TCP .
FrontendPort	Integer	No	The port for front-end connections.

Name	Type	Required	Description
`Offset`	Integer	Yes	The number of records to skip when returning the result records. Note: If not specified, all result records are returned.
`PageSize`	Integer	Yes	The number of result records per page. Maximum value: `50` .

Response parameters

Name	Type	Description
`Total`	Integer	The total number of result records.
`Listeners`	Listener []	The array of listeners. For more information, see Listener.
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Table 6-15: Listener

Name	Type	Description
`InstanceId`	String	The ID of the Anti-DDoS Pro instance.
`Protocol`	String	The listener protocol.
`FrontendPort`	Integer	The port for front-end (client to Anti-DDoS Pro) connections. Valid values: 0-65535.
`BackendPort`	Integer	The port for back-end (Anti-DDoS Pro to origin server) connections. Valid values: 0-65535.
`RealServers`	JSON array	The IP addresses of the origin servers.
`IsAutoCreate`	Boolean	Indicates whether the listener is automatically created. If true, the listener cannot be deleted or modified.

Examples

Sample requests

```
{
  " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc ",
  " ForwardPro  tocol ": " tcp ",
  " FrontendPo  rt ":  80 ,
  " Offset ":  1 ,
  " PageSize ":  10
}
```

Sample responses

```
{
  " Total ":  1 ,
  " Listeners ": [
    {
      " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc
 ",
      " Protocol ": " tcp ",
      " FrontendPo  rt ":  80 ,
   " BackendPor  t ": 80 ,
      " RealServer  s ": [
        " 1 . 1 . 1 . 1 ",
        " 2 . 2 . 2 . 2 "
      ],
      " IsAutoCrea  te ":  true
    }
  ],
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.5.7 DescribeLayer4RuleAttributes

You can call this operation to perform queries on the attributes of layer 4 forwarding rules, including session persistence and anti-DDoS protection settings.

Request parameters

Name	Type	Required	Description
Listeners	String	Yes	The array of listeners that you want to query represented as a JSON string. For more information, see Listener.

Table 6-16: Listener

Name	Type	Required	Description
InstanceId	String	Yes	The ID of the Anti-DDoS Pro instance.
Protocol	String	Yes	The listener protocol.
FrontendPort	Integer	Yes	The port for front-end (client to Anti-DDoS Pro) connections. Valid values: 0-65535.
BackendPort	Integer	No	The port for back-end (Anti-DDoS Pro to origin server) connections. Valid values: 0-65535.

Name	Type	Required	Description
RealServers	JSON array	No	The IP addresses of the origin servers.
IsAutoCreate	Boolean	No	Indicates whether the listener is automatically created. If true, the listener cannot be deleted or modified.

Response parameters

Name	Type	Description
Total	Integer	The total number of result records.
Listeners	String	The array of listeners represented as a JSON string. For more information, see Listener.
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Table 6-17: Listener

Name	Type	Description
InstanceId	String	The ID of the Anti-DDoS Pro instance.
Protocol	String	The listener protocol.
FrontendPort	Integer	The port for front-end (client to Anti-DDoS Pro) connections. Valid values: 0-65535.
Config	TcpConfig	The TCP configuration. For more information, see TcpConfig.

Table 6-18: TcpConfig

Name	Type	Description
PersistenceTimeout	Integer	The session timeout. Unit: seconds. Default value: 0 . A value of 0 indicates that session persistence is disabled.
Synproxy	String	The false sources feature of anti-DDoS protection. Valid values: off and on .
NodataConn	String	The null session connections feature of anti-DDoS protection. Valid values: off and on .
Sla	Sla	The connection limit on destination IPs. For more information, see Sla.

Name	Type	Description
Slimit	Slimit	The connection limit on source IPs. For more information, see Slimit.
PayloadLen	PayloadLen	The limit on the payload size of each packet. For more information, see PayloadLen.

Table 6-19: Sla

Name	Type	Description
Cps	Integer	The maximum number of new connections per second to a single destination IP and port. Valid values: 100-100,000.
Maxconn	Integer	The maximum number of concurrent connections to a single destination IP and port. Valid values: 1,000-1,000, 000.
CpsEnable	Integer	Indicates whether Cps is enabled. Valid values: · 0 : Disabled · 1 (Default): Enabled
MaxconnEnable	Integer	Indicates whether Maxconnection is enabled. Valid values: · 0 : Disabled · 1 (Default): Enabled

Table 6-20: Slimit

Name	Type	Description
Cps	Integer	The maximum number of new connections per second from a single source IP. Valid values: 100-100,000.
Maxconn	Integer	The maximum number of concurrent connections from a single source IP. Valid values: 1,000-1,000,000.
CpsEnable	Integer	Indicates whether Cps is enabled. Valid values: · 0 : Disabled · 1 (Default): Enabled
MaxconnEnable	Integer	Indicates whether Maxconnection is enabled. Valid values: · 0 : Disabled · 1 (Default): Enabled

Table 6-21: PayloadLen

Name	Type	Description
`Min`	Integer	The minimum payload size of a packet.
`Max`	Integer	The maximum payload size of a packet.

Examples

Sample requests

```
{
  " Listeners ": "[{\" InstanceId \":\" 0bcf28g5 - d57c - 11e7 - 9bs0
 - d89d6717dx  bc \",\" Protocol \":\" tcp \",\" FrontendPo  rt \": 80
 }]"
}
```

Sample responses

```
{
  " Total ":  1 ,
  " Listeners ": [
    {
      " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc
 ",
      " Protocol ": " tcp ",
      " FrontendPo  rt ":  80 ,
      " Config ": {
        " Persistenc  eTimeout ":  80 ,
        " Synproxy ": " off ",
  " NodataConn ": " on ",
        " Sla ": {
          " Cps ":  10 ,
          " Maxconn ":  10 ,
    " CpsEnable ":  1 ,
    " MaxconnEna  ble ":  1
        },
        " Slimit ": {
          " Cps ":  10 ,
          " Maxconn ":  10 ,
    " CpsEnable ":  1 ,
    " MaxconnEna  ble ":  1
        },
        " PayloadLen ": {
          " Min ":  1 ,
          " Max ":  2
        }
      }
    }
  ],
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.5.8 DescribeHealthCheckList

You can call this operation to perform queries on layer 4 or layer 7 health check settings.

Request parameters

Name	Type	Required	Description
Listeners	String	Yes	The array of listeners that you want to query represented as a JSON string. For more information, see Listener.

Table 6-22: Listener

Name	Type	Required	Description
InstanceId	String	Yes	The ID of the Anti-DDoS Pro instance.
Protocol	String	Yes	The listener protocol.
FrontendPort	Integer	Yes	The port for front-end (client to Anti-DDoS Pro) connections. Valid values: 0-65535.
BackendPort	Integer	No	The port for back-end (Anti-DDoS Pro to origin server) connections. Valid values: 0-65535.
RealServers	JSON array	No	The IP addresses of the origin servers.
IsAutoCreate	Boolean	No	Indicates whether the listener is automatically created. If true, the listener cannot be deleted or modified.

Response parameters

Name	Type	Description
Total	Integer	The total number of result records.
HealthCheck	HealthCheck	The health check information. For more information, see HealthCheck.
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Table 6-23: HealthCheck

Name	Type	Description
`Type`	String	The protocol type. Valid values: · `TCP` : Layer 4 · `HTTP` : Layer 7
`Domain`	String	In layer 7 health check, the domain name.
`Uri`	String	In layer 7 health check, the URI path.
`Timeout`	Integer	In layer 4 health check, the response timeout.
`Port`	Integer	In layer 4 health check, the port that is used to connect with the origin server.
`Interval`	Integer	In layer 4 health check, the time interval between health checks.
`Up`	Integer	In layer 4 health check, the healthy threshold.
`Down`	Integer	In layer 4 health check, the unhealthy threshold.

Examples

Sample requests

```
{
  " Listeners ": "[{\" InstanceId \":\" 0bcf28g5 - d57c - 11e7 - 9bs0
 - d89d6717dx  bc \",\" Protocol \":\" tcp \",\" FrontendPo  rt \": 80
 }]"
}
```

Sample responses

```
{
  " Total ":  1 ,
  " HealthChec  k ": [
    {
      " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc
 ",
      " Protocol ": " tcp ",
      " FrontendPo  rt ":  80 ,
      " HealthChec  k ": {
        " Type ": " tcp ",
        " Timeout ":  10 ,
        " Port ":  80 ,
        " Interval ":  10 ,
        " Up ":  10 ,
        " Down ":  20
      }
    }
  ],
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.5.9 DescribeHealthCheckStatusList

You can call this operation to perform queries on health check statuses.

Request parameters

Name	Type	Required	Description
`Listeners`	String	Yes	The array of listeners that you want to query represented as a JSON string. For more information, see Listener.

Table 6-24: Listener

Name	Type	Required	Description
`InstanceId`	String	Yes	The ID of the Anti-DDoS Pro instance.
`Protocol`	String	Yes	The listener protocol.
`FrontendPort`	Integer	Yes	The port for front-end (client to Anti-DDoS Pro) connections. Valid values: 0-65535.
`BackendPort`	Integer	No	The port for back-end (Anti-DDoS Pro to origin server) connections. Valid values: 0-65535.
`RealServers`	JSON array	No	The IP addresses of the origin servers.
`IsAutoCreate`	Boolean	No	Indicates whether the listener is automatically created. If true, the listener cannot be deleted or modified.

Response parameters

Name	Type	Description
`HealthCheckStatusList`	HealthCheckStatus	The array of health check statuses. For more information, see HealthCheckStatus.
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Table 6-25: HealthCheckStatus

Name	Type	Description
InstanceId	String	The ID of the Anti-DDoS Pro instance.
Protocol	String	The listener protocol.
FrontendPort	Integer	The port for front-end connections.
RealServerStatusList	RealServerStatus	The statuses of origin servers represented as a JSON array. For more information, see RealServerStatus.
Status	String	The health check status. Valid values: normal and abnormal .

Table 6-26: RealServerStatus

Name	Type	Description
Address	String	The IP address of the origin server.
Status	String	The status of the origin server. Valid values: normal and abnormal .

Examples

Sample requests

```
{
  " Listeners ": "[{\" InstanceId \":\" 0bcf28g5 - d57c - 11e7 - 9bs0
 - d89d6717dx  bc \",\" Protocol \":\" tcp \",\" FrontendPo  rt \": 80
 }]"
}
```

Sample responses

```
{
  " HealthChec  kStatusLis  t ": [
    {
      " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc
 ",
      " Protocol ": " tcp ",
      " FrontendPo  rt ":  80 ,
   " Status ": " normal ",
   " RealServer  StatusList ": [
       " Status ": " normal ",
       " Address ": " 1 . 1 . 1 . 1 "
      ]
    }
  ],
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.6 Layer 7 rules

6.6.1 DescribeDomains

You can call this operation to perform queries on layer 7 forwarding rules.

Request parameters

Name	Type	Required	Description
`Domain`	String	No	The domain name that you want to query.
`QueryDomainPattern`	String	No	The query mode. Valid values: · `fuzzy` (Default): Fuzzy query. · `exact` : Exact query.
`Offset`	Integer	Yes	The number of records to skip when returning the result records. Default value: `0` .
`PageSize`	Integer	Yes	The number of result records per page. Maximum value: `10` .

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.
`Total`	Integer	The total number of domain names.
`Domains`	[] Domain	The array of domain names and associated forwarding rules. For more information, see Domain.

Table 6-27: Domain

Name	Type	Description
`Domain`	String	The domain name.
`ProxyTypes`	[] String	The array of forwarding protocols. Valid values: · `http` · `https` · `websocket` · `websockets`

Name	Type	Description
`RealServers`	[] String	The array of origin servers.
`CcEnabled`	Boolean	Indicates whether HTTP flood protection is enabled.
`CcRuleEnabled`	Boolean	Indicates whether HTTP flood protection rules are enabled.
`CcTemplate`	String	The template of HTTP flood protection.
`WhiteList`	[] String	The array of IP addresses in the whitelist.
`BlackList`	[] String	The array of IP addresses in the blacklist.
`CertName`	String	The name of the certificate.
`RealSevers`	[] Layer7RealServer	The array of origin servers. For more information, see Layer7RealServer.

Table 6-28: Layer7RealServer

Name	Type	Description
`RealServer`	String	The address of the origin server.
`RsType`	Integer	The address type. Valid values: · `0` : IP address. · `1` : Domain name.

Examples

Sample requests

```
{
  " Domain ": " www . alibaba . com ",
  " QueryDomai nPattern ": " fuzzy ",
  " Offset ": 0 ,
  " PageSize ": 10
}
```

Sample responses

```
{
  " Total ":  2 ,
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc ",
  " Domains ": [
   {
```

```
   " Domain ": " www . alibaba . com ",
   " ProxyTypes ": [" https "," http "],
   " RealServer  s ": [{
    " RealServer ": " 1 . 1 . 1 . 1 ",
    " RsType ": 0
   },{
    " RealServer ":" 1 . 1 . 1 . 1 ",
    " RsType ": 1
    }
   ],
   " CcEnabled " :  false ,
   " CcRuleEnab  led " :  true ,
   " CcTemplate " : " default ",
   " BlackList " : [" 1 . 1 . 1 . 1 / 1 "," 1 . 1 . 1 . 2 / 2 "],
   " WhiteList " : [" 1 . 1 . 1 . 1 / 1 "," 1 . 1 . 1 . 2 / 2 "],
   " CertName " : " www_alibab  a_com . pem "
  },{
   " Domain ": " www . alibaba . com ",
   " ProxyTypes ": [" https "," http "],
   " RealServer  s ": [{
    " RealServer ": " 1 . 1 . 1 . 1 ",
    " RsType ": 0
   },{
    " RealServer ": " 1 . 1 . 1 . 2 ",
    " RsType ": 1
    }
   ],
   " CcEnabled " :  false ,
   " CcRuleEnab  led " :  true ,
   " CcTemplate " : " default ",
   " BlackList " : [" 1 . 1 . 1 . 1 / 1 "," 1 . 1 . 1 . 2 / 2 "],
   " WhiteList " : [" 1 . 1 . 1 . 1 / 1 "," 1 . 1 . 1 . 2 / 2 "],
   " CertName " : " www_alibab  a_com . pem "
  }
   ]
 }
```

6.6.2 CreateLayer7Rule

You can call this operation to create layer 7 forwarding rules.

Request parameters

Name	Type	Required	Description
Domain	String	Yes	The domain name that you want to add.
RsType	Integer	Yes	The type of the origin server's address. Valid values: · 0 : IP address. · 1 : Domain name.

Name	Type	Required	Description
InstanceIds.N	String	No	The ID of the Anti-DDoS Pro instance that you want to set up for the domain. If you want to set up multiple Anti-DDoS Pro instances, specify multiple parameters as follows: InstanceIds. 1, InstanceIds. 2, InstanceIds. 3, .. Note: If this parameter is not specified, the domain name is not associated with any Anti-DDoS Pro instance.
Rules	String	Yes	The array of layer 7 rules represented as a JSON string. For more information, see Layer7Rule.

Table 6-29: Layer7Rule

Name	Type	Description
ProxyRules	[] ProxyRule	The array of rule objects. For more information, see ProxyRule.
ProxyType	String	The forwarding protocol. Valid values: · http · https · websocket · websockets

Table 6-30: ProxyRule

Name	Type	Description
ProxyPort	Integer	The forwarding port. Valid values: 80 and 443 .
RealServers	[] String	The IP address and port of the origin server. For example, 1.1.1.1:443 .

Response parameters

Name	Type	Description
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Domain ": " www . alibaba . com ",
  " RsType ":  1 ,
  " InstanceId  s .  1 ": " xxxx ",
  " Rules ": "[{\" ProxyRules \":[{\" ProxyPort \": 443 ,\"
 RealServer  s \":[\" 1 . 1 . 1 . 1 : 443 \"]}],\" ProxyType \":\"
 https \"},{\" ProxyRules \":[{\" ProxyPort \": 80 ,\" RealServer  s
 \":[\" 1 . 1 . 1 . 1 : 80 \"]}],\" ProxyType \":\" http \"}]"
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.6.3 ConfigLayer7Rule

You can call this operation to edit layer 7 forwarding rules.

Request parameters

Name	Type	Required	Description
Domain	String	Yes	The domain name that you want to change settings for.
RsType	Integer	Yes	The type of the origin server’ s address. Valid values: · 0 : IP address. · 1 : Domain name.
InstanceIds . N	String	No	The ID of the Anti-DDoS Pro instance that you want to set up for the domain. If you want to set up multiple Anti-DDoS Pro instances, specify multiple parameters as follows: InstanceIds. 1, InstanceIds. 2, InstanceIds. 3, ... Note: If this parameter is not specified, the domain name is not associated with any Anti-DDoS Pro instance.

Name	Type	Required	Description
`RealServers . N`	String	Yes	The IP address of the origin server. If you have multiple IP addresses, specify multiple parameters as follows: RealServers. 1, RealServers. 2, RealServers. 3, ...
`ProxyTypes . N`	String	Yes	The protocol supported by the origin server . To add multiple protocols, specify multiple parameters as follows: ProxyTypes. 1, ProxyTypes. 2, ProxyTypes. 3, ...

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Domain ": " www . alibaba . com ",
  " RsType " :  0 ,
  " RealServer  s .  1 ": " 1 . 1 . 1 . 1 ",
  " InstanceId  s .  1 ": " xxxx ",
  " ProxyTypes .  1 " : " http "
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.6.4 DeleteLayer7Rule

You can call this operation to delete layer 7 forwarding rules.

Request parameters

Name	Type	Required	Description
`Domain`	String	Yes	The domain name that you want to change settings for.

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Domain ": " www . alibaba . com "
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.6.5 ConfigLayer7Cert

You can call this operation to configure digital certificates for domains.

Request parameters

Name	Type	Required	Description
`Domain`	String	Yes	The domain name that you want to change settings for.
`CertId`	Integer	No	The ID of the certificate. Note: If this parameter is specified, `CertName` , `Cert` , or `Key` is not needed.
`CertName`	String	No	The name of the certificate. Note: If this parameter is specified, you must also specify `Cert` and `Key` . If `CertName` , `Cert` , and `Key` are specified, `CertId` is not needed.

Name	Type	Required	Description
`Cert`	String	No	The public key of the certificate. Note: If this parameter is specified, you must also specify `CertName` and `Key` . If `CertName` , `Cert` , and `Key` are specified, `CertId` is not needed.
`Key`	String	No	The private key of the certificate. Note: If this parameter is specified, you must also specify `CertName` and `Cert` . If `CertName` , `Cert` , and `Key` are specified, `CertId` is not needed.

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Domain " : " www . alibaba . com ",
  " CertId " :  1 ,
  " CertName " : " xxxx ",
  " Cert " : " abc ",
  " Key " : " bcd "
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.6.6 ConfigLayer7BlackWhiteList

You can call this operation to add IP addresses to the blacklist or whitelist of domains.

Request parameters

Name	Type	Required	Description
`Domain`	String	Yes	The domain name that you want to change settings for.
`BlackList . N`	String	No	The IP addresses that you want to add to the blacklist. If you want to blacklist multiple IP addresses, specify multiple parameters as follows: BlackList. 1, BlackList. 2, BlackList. 3 , ...
`WhiteList . N`	String	No	The IP addresses that you want to add to the whitelist. If you want to whitelist multiple IP addresses, specify multiple parameters as follows: WhiteList. 1, WhiteList. 2, WhiteList. 3, ...

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Domain ": " www . alibaba . com ",
  " BlackList .  1 " : " 1 . 1 . 1 . 1 ",
  " BlackList .  2 " : " 2 . 2 . 2 . 2 / 24 ",
  " WhiteList .  1 " : " 3 . 3 . 3 . 3 ",
  " WhiteList .  2 " : " 4 . 4 . 4 . 4 / 24 "
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.6.7 DescribleLayer7InstanceRelations

You can call this operation to perform queries on Anti-DDoS Pro instances by domain.

Request parameters

Name	Type	Required	Description
`DomainList`	[] String	Yes	The array of domain names that you want to query.

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.
`Layer7InstanceRelation`	[] Layer7InstanceRelation	The array of domain names and associated Anti-DDoS Pro instances. For more information, see Layer7InstanceRelation.

Table 6-31: Layer7InstanceRelation

Name	Type	Description
`Domain`	String	The domain name that you have specified.
`InstanceDetails`	[] InstanceDetail	The list of Anti-DDoS Pro instances that are associated with the domain name. For more information, see InstanceDetail.

Table 6-32: InstanceDetail

Name	Type	Description
`InstanceId`	String	The ID of the Anti-DDoS Pro instance.
`Line`	String	The network line of the Anti-DDoS Pro instance. For example, `coop-line-001`.
`EipList`	[] String	The array of EIPs of the Anti-DDoS Pro instance. For example, `["1.1.1.1"]`.

Examples

Sample requests

```
{
  " DomainList ": [" 1 . aliyun . com "," 2 . aliyun . com "]
}
```

Sample responses

```
{
    " Layer7Inst  anceRelati  ons ":[
        {
            " Domain ":" 1 . aliyun . com ",
            " InstanceDe  tails ":[
                {
                    " EipList ":[
                        " 203 . x . x . 0 ",
                        " 203 . x . x . 1 "
                    ],
                    " InstanceId ":" xxxxxx "
                },
                {
                    " EipList ":[
                        " 203 . x . x . 0 ",
                        " 203 . x . x . 1 "
                    ],
                    " InstanceId ":" xxxxxx "
                }
            ]
        }
    ]
}
```

6.6.8 DescribleCertList

You can call this operation to perform queries on certificates.

Request parameters

None.

Response parameters

Name	Type	Description
RequestId	String	The GUID generated by Alibaba Cloud for the request.
CertList	[] CertItem	The array of certificates. For more information, see CertItem.

Table 6-33: CertItem

Name	Type	Description
`Id`	Integer	The ID of the certificate.
`Name`	String	The name of the certificate.

Examples

Sample requests

None.

Sample responses

```
{
    " CertList ": [
        {
            " Id ":  80 ,
   " Name " : " name1 "
        },
  {
            " Id ":  81 ,
   " Name " : " name2 "
        }
    ]
}
```

6.6.9 EnableLayer7CC

You can call this operation to enable layer 7 HTTP flood protection for domains.

Request parameters

Name	Type	Required	Description
`Domain`	String	Yes	The domain name that you want to change settings for.

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Domain ": " www . alibaba . com "
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.6.10 DisableLayer7CC

You can call this operation to disable layer 7 HTTP flood protection for domains.

Request parameters

Name	Type	Required	Description
Domain	String	Yes	The domain name that you want to change settings for.

Response parameters

Name	Type	Description
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Domain ": " www . alibaba . com "
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.6.11 EnableLayer7CCRule

You can call this operation to enable layer 7 HTTP flood protection rules for domains.

Request parameters

Name	Type	Required	Description
Domain	String	Yes	The domain name that you want to change settings for.

Response parameters

Name	Type	Description
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Domain ": " www . alibaba . com "
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.6.12 DisableLayer7CCRule

You can call this operation to disable layer 7 HTTP flood protection rules for domains.

Request parameters

Name	Type	Required	Description
Domain	String	Yes	The domain name that you want to change settings for.

Response parameters

Name	Type	Description
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Domain ": " www . alibaba . com "
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.6.13 AddLayer7CCRule

You can call this operation to add layer 7 HTTP flood protection rules for domains.

Request parameters

Name	Type	Required	Description
`Domain`	String	Yes	The domain name that you want to change settings for.
`Name`	String	Yes	The name of the HTTP flood protection rule.
`Act`	String	Yes	The action to perform when the rule is triggered. · `close` : Block the request. · `captcha` : Enable captcha verification.
`Count`	Integer	Yes	The number of requests. This parameter is used together with the `Interval` parameter. The rule is triggered when the number of requests sent by an IP address reaches the `Count` limit during the `Interval` period.
`Interval`	Integer	Yes	The time interval. This parameter is used together with the `Count` parameter. The rule is triggered when the number of requests sent by an IP address reaches the `Count` limit during the `Interval` period.
`Mode`	String	Yes	The URI matching algorithm. · `match` : Exact match. Requests are counted only when the request URI exactly matches the URI that is protected under the rule. · `prefix` : Prefix match. Requests are counted when the request URI contains the URI that is protected under the rule.
`Ttl`	Integer	Yes	The blocking duration when the rule is triggered.
`Uri`	String	Yes	The URI that is protected under the rule.

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Domain ": " www . alibaba . com ",
  " Name ":" XXXX ",
  " Act ":" close ",
  " Count ": 11 ,
  " Interval ": 5 ,
  " Mode ":" match ",
  " Ttl ": 1 ,
  " Uri ":"/ a / b / c . htm "
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.6.14 ConfigLayer7CCRule

You can call this operation to edit layer 7 HTTP flood protection rules.

Request parameters

Name	Type	Required	Description
`Domain`	String	Yes	The domain name that you want to change settings for.
`Name`	String	Yes	The name of the HTTP flood protection rule.
`Act`	String	Yes	The action to perform when the rule is triggered. · `close` : Block the request. · `captcha` : Enable captcha verification.
`Count`	Integer	Yes	The number of requests. This parameter is used together with the `Interval` parameter. The rule is triggered when the number of requests sent by an IP address reaches the `Count` limit during the `Interval` period.

Name	Type	Required	Description
`Interval`	Integer	Yes	The time interval. This parameter is used together with the `Count` parameter. The rule is triggered when the number of requests sent by an IP address reaches the `Count` limit during the `Interval` period.
`Mode`	String	Yes	The URI matching algorithm. · `match` : Exact match. Requests are counted only when the request URI exactly matches the URI that is protected under the rule. · `prefix` : Prefix match. Requests are counted when the request URI contains the URI that is protected under the rule.
`Ttl`	Integer	Yes	The blocking duration when the rule is triggered.
`Uri`	String	Yes	The URI that is protected under the rule.

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Domain ": " www . alibaba . com ",
  " Name ":" XXXX ",
  " Act ":" close ",
  " Count ": 11 ,
  " Interval ": 5 ,
  " Mode ":" match ",
  " Ttl ": 1 ,
  " Uri ":"/ a / b / c . htm "
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.6.15 DescribeLayer7CCRules

You can call this operation to perform queries on layer 7 HTTP flood protection rules.

Request parameters

Name	Type	Required	Description
`Domain`	String	Yes	The domain name that you want to query.
`Offset`	Integer	Yes	The number of records to skip when returning the result records. Note: If not specified, all result records are returned.
`PageSize`	Integer	Yes	The number of result records per page. Maximum value: `10` .

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.
`Layer7CCRules`	[] Layer7CCRule	The array of HTTP flood protection rules. For more information, see Layer7CCRule.
`Total`	Integer	The total number of rules.

Table 6-34: Layer7CCRule

Name	Type	Description
`Name`	String	The name of the HTTP flood protection rule.
`Act`	String	The action to perform when the rule is triggered. · `close` : Block the request. · `captcha` : Enable captcha verification.
`Count`	Integer	The number of requests. This parameter is used together with the `Interval` parameter. The rule is triggered when the number of requests sent by an IP address reaches the `Count` limit during the `Interval` period.

Name	Type	Description
`Interval`	Integer	The time interval. This parameter is used together with the `Count` parameter. The rule is triggered when the number of requests sent by an IP address reaches the `Count` limit during the `Interval` period.
`Mode`	String	The URI matching algorithm. · `match` : Exact match. Requests are counted only when the request URI exactly matches the URI that is protected under the rule. · `prefix` : Prefix match. Requests are counted when the request URI contains the URI that is protected under the rule.
`Ttl`	Integer	The blocking duration when the rule is triggered.
`Uri`	String	The URI that is protected under the rule.

Examples

Sample requests

```
{
 " Domain ": " www . alibaba . com ",
 " Offset ":  0 ,
 " PageSize ":  10
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc ",
  " Total ":  10 ,
  " Layer7CCRu  les " :[
   {
  " Name ":" XXXX ",
  " Act ":" close ",
  " Count ": 11 ,
  " Interval ": 5 ,
  " Mode ":" match ",
  " Ttl ": 1 ,
  " Uri ":"/ a / b / c . htm "
 },{
  " Name ":" XXXX ",
  " Act ":" close ",
  " Count ": 11 ,
  " Interval ": 5 ,
  " Mode ":" match ",
  " Ttl ": 1 ,
  " Uri ":"/ a / b / c . htm "
 }
  ]
}
```

6.6.16 DeleteLayer7CCRule

You can call this operation to delete layer 7 HTTP flood protection rules.

Request parameters

Name	Type	Required	Description
Domain	String	Yes	The domain name that you want to change settings for.
Name	String	Yes	The name of the HTTP flood protection rule that you want to delete.

Response parameters

Name	Type	Description
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Domain ": " www . alibaba . com ",
  " Name ":" XXXX "
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.6.17 ConfigLayer7CCTemplate

You can call this operation to set the mode of layer 7 HTTP flood protection for domains.

Request parameters

Name	Type	Required	Description
Domain	String	Yes	The domain name that you want to change settings for.

Name	Type	Required	Description
Template	String	Yes	The mode of HTTP flood protection that you want to use. Valid values: · default : Normal · gf_under_attack : Emergency · gf_sos_verify : Strict · gf_sos_enhance : Super Strict

Response parameters

Name	Type	Description
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Domain ": " www . alibaba . com ",
  " Template ":" XXXX "
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.6.18 DescribeDomainAccessMode

You can call this operation to perform queries on modes that are used to set up Anti-DDoS Pro for different domain names.

Request parameters

Name	Type	Required	Description
DomainList	[] String	Yes	The list of domain names that you want to query.

Response parameters

Name	Type	Description
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Name	Type	Description
`DomainMode List`	[] Object	The list of modes that are used to set up Anti-DDoS Pro. For more information, see DomainModeList.

Table 6-35: DomainModeList

Name	Type	Description
`Domain`	String	The domain name.
`AccessMode`	Integer	The mode that is used to set up Anti-DDoS Pro for the domain. Valid values: · `0` : A value of 0 indicates that A records are used. · `1` : A value of 1 indicates that the Anti-DDoS Pro mode is used. · `2` : A value of 2 indicates that the back-to-origin mode is used.

Examples

Sample requests

```
{
  " DomainList ": [" www . alibaba . com "," www . aliyun . com "]
}
```

Sample responses

```
{
    " RequestId ":" 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc ",
    " DomainMode  List ":[
        {
            " Domain ":" www . alibaba . com ",
            " AccessMode ": 1
        },
        {
            " Domain ":" www . aliyun . com ",
            " AccessMode ": 2
        }
    ]
}
```

6.6.19 ConfigDomainAccessMode

You can call this operation to specify the mode that is used to set up Anti-DDoS Pro for a domain name.

Request parameters

Name	Type	Required	Description
`Domain`	String	Yes	The domain name that you want to set up Anti-DDoS Pro for.
`AccessMode`	Integer	Yes	The mode that is used to set up Anti-DDoS Pro. Valid values: · `0` : A value of 0 indicates that A records are used. · `1` : A value of 1 indicates that the Anti-DDoS Pro mode is used. · `2` : A value of 2 indicates that the back-to-origin mode is used.

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " Domain ": " www . alibaba . com ",
  " AccessMode ":  1
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc ",
}
```

6.6.20 DescribeBackSourceCidr

You can call this operation to perform queries on back-to-origin CIDR blocks.

Request parameters

Name	Type	Required	Description
`Line`	String	Yes	The network line that you want to query.

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.
`CidrList`	[] String	The list of back-to-origin CIDR blocks.

Examples

Sample requests

```
{
  " Line ":" coop - line - 001 "
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc ",
  " CidrList " : [" 47 . 97 . 128 . 0 / 25 "," 47 . 97 . 128 . 128 /
 25 "]
}
```

6.7 Tasks

6.7.1 ListAsyncTask

You can call this operation to perform queries on asynchronous tasks.

Request parameters

Name	Type	Required	Description
`TaskType`	Integer	No	The type of the task that you want to query. Valid values: · `1` : A value of 1 indicates that the task is to export multiple layer 4 forwarding rules. · `2` : A value of 2 indicates that the task is to export multiple layer 7 forwarding rules. · `3` : A value of 3 indicates that the task is to export session and health check settings. · `4` : A value of 4 indicates that the task is to export anti-DDoS protection policies. Note: If this parameter is not specified, all types of tasks are returned.

Name	Type	Required	Description
`TaskStatus`	Integer	No	The status of the task that you want to query. Valid values: - `0` : A value of 0 indicates that the task is initializing. - `1` : A value of 1 indicates that the task is in progress. - `2` : A value of 2 indicates that the task is successful. - `3` : A value of 3 indicates that the task has failed. Note: If this parameter is not specified, tasks of all statuses are returned.
`PageNo`	Integer	Yes	The number of the starting page that is displayed. Must be an integer no less than `1` .
`PageSize`	Integer	Yes	The number of records per page. Maximum value: `20` .

Response parameters

Name	Type	Description
`RequestId`	String	The GUID generated by Alibaba Cloud for the request.
`Total`	Integer	The total number of domain names.
`AsyncTasks`	[] AsyncTask	The list of tasks. For more information, see AsyncTask.

Table 6-36: AsyncTask

Name	Type	Description
`TaskId`	Long	The ID of the task. You can delete tasks by ID.

Name	Type	Description
`TaskType`	Integer	The type of the task. Valid values: · `1` : A value of 1 indicates that the task is to export multiple layer 4 forwarding rules. · `2` : A value of 2 indicates that the task is to export multiple layer 7 forwarding rules. · `3` : A value of 3 indicates that the task is to export session and health check settings. · `4` : A value of 4 indicates that the task is to export anti-DDoS protection policies.
`TaskStatus`	Integer	The status of the task. Valid values: · `0` : A value of 0 indicates that the task is initializing. · `1` : A value of 1 indicates that the task is in progress. · `2` : A value of 2 indicates that the task is successful. · `3` : A value of 3 indicates that the task has failed.
`StartTime`	Long	The start timestamp of the task. Unit: milliseconds.
`EndTime`	Long	The end timestamp of the task. Unit: milliseconds.
`TaskParams`	TaskParam	The task parameter represented as a JSONObject string. For more information, see TaskParam.
`TaskResult`	TaskResult	The task execution result represented as a JSONObject string. For more information, see TaskResult.

Table 6-37: TaskParam

Name	Type	Description
`instanceId`	String	The ID of the Anti-DDoS Pro instance.
`domain`	String	The domain name.

Table 6-38: TaskResult

Name	Type	Description
`instanceId`	String	The ID of the Anti-DDoS Pro instance.
`url`	String	The OSS URL where the files were downloaded.

Examples

Sample requests

```
{
  " TaskType ":  1 ,
  " TaskStatus ":  0 ,
  " PageNo ": 1 ,
  " PageSize ": 10
}
```

Sample responses

```
{
  " Total ":  2 ,
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc ",
  " AsyncTasks ": [
   {
  " TaskId ":  1 ,
     " TaskType ":  1 ,
     " TaskStatus ":  2 ,
     " StartTime ":  156927362 ,
   " EndTime ":  156927362
     " TaskParams ": "{}", //  Layer   4   task : {" instanceId ": "
 ddoscoo - 1234 - qrq2134 "},  Layer   7   task : {" domain ": " www .
 aliyun . com "}
       " TaskResult ": "{}" //  Layer   4   task : {" instanceId ": "
 ddoscoo - 1234 - qrq2134 ", " url ": " https :// oss . xxx . xxx "},
 Layer   7   task : {" domain ": " www . aliyun . com ", " url ": "
 https :// oss . xxx . xxx "},  Session   and   health   check   task
 : {" instanceId ": " ddoscoo - 1234 - qrq2134 ", " url ": " https ://
 oss . xxx . xxx "},  Anti - DDoS   protection   policy   task : {"
 instanceId ": " ddoscoo - 1234 - qrq2134 ", " url ": " https :// oss
 . xxx . xxx "}
 }
  ]
}
```

6.7.2 CreateAsyncTask

You can call this operation to create asynchronous tasks.

Request parameters

Name	Type	Required	Description
`TaskType`	Integer	Yes	The type of the task. Valid values: · `1` : A value of 1 indicates that the task is to export multiple layer 4 forwarding rules. · `2` : A value of 2 indicates that the task is to export multiple layer 7 forwarding rules. · `3` : A value of 3 indicates that the task is to export session and health check settings. · `4` : A value of 4 indicates that the task is to export anti-DDoS protection policies.
`TaskParams`	String	Yes	The task parameter represented as a JSON string. The parameters vary depending on the task type. · When `TaskType` is set to `1` , specify the ID of the Anti-DDoS Pro instance where the rules to be exported come from. For example, `{" instanceId ": " ddoscoo - cn - XXXXX "}`. · When `TaskType` is set to `2` , specify an empty string. For example, `{}`. · When `TaskType` is set to `3` , specify the ID of the Anti-DDoS Pro instance where the rules to be exported come from. For example, `{" instanceId ": " ddoscoo - cn - XXXXX "}`. · When `TaskType` is set to `4` , specify the ID of the Anti-DDoS instance where the rules to be exported come from. For example, `{" instanceId ": " ddoscoo - cn - XXXXX "}`.

Response parameters

Name	Type	Description
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " TaskType ":  1 ,
  " TaskParams ": "{}" //  Layer   4   task : {" instanceId ": "
 ddoscoo - woieuroi23  4 "},  Layer   7   task : {},  Session   and
   health   check   task : {" instanceId ": " xxxxxxxxxx "},  Anti -
 DDoS   protection   policy   task : {" instanceId ": " xxxxxxxxxx "}
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.7.3 DeleteAsyncTask

You can call this operation to delete asynchronous tasks.

Request parameters

Name	Type	Required	Description
TaskId	Long	Yes	The ID of the task that you want to delete.

Response parameters

Name	Type	Description
RequestId	String	The GUID generated by Alibaba Cloud for the request.

Examples

Sample requests

```
{
  " TaskId ":  1
}
```

Sample responses

```
{
  " RequestId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc "
}
```

6.8 Logs

6.8.1 DescribeOpEntities

You can call this operation to perform queries on operation logs.

Request parameters

Name	Type	Required	Description
`StartTime`	Long	Yes	The start timestamp of the query. Unit: milliseconds.
`EndTime`	Long	Yes	The end timestamp of the query. Unit: milliseconds.
`PageNo`	Integer	Yes	The number of the starting page returned in the query result.
`PageSize`	Integer	Yes	The number of log records on each page. Maximum value: `50` .

Response parameters

Name	Type	Description
`Total`	Integer	The total number of log records.
`OpEntities`	OpEntity	The operation log records. For more information, see OpEntity.

Table 6-39: OpEntity

Name	Type	Description
`GmtCreate`	Long	The time when the log record was generated. Unit: milliseconds.
`EntityType`	Integer	The type of the operation object. Valid value: `1` . A value of 1 indicates that the operation object is an IP address.
`EntityObject`	String	The value of the operation object.
`OpAction`	Integer	The operation type. Valid value: `1` . A value of 1 indicates that the operation is to change the burstable bandwidth.
`OpAccount`	String	The user who performed the operation.

Name	Type	Description
`OpDesc`	String	The details of the operation. For more information, see OpDesc.

Table 6-40: OpDesc

Parameter	Type	Description
`oldValue`	EntityValue	The old value. For more information, see EntityValue.
`newValue`	EntityValue	The new value. For more information, see EntityValue.

Table 6-41: EntityValue

Name	Type	Description
`elasticBandwidth`	Integer	The value of the burstable bandwidth.

Examples

Sample requests

```
{
  " StartTime ":  123 ,
  " EndTime ":  456 ,
  " PageNo ":  1 ,
  " PageSize ":  10
}
```

Sample responses

```
{
  " Total ":  10 ,
  " OpEntities ": [
    {
      " gmtCreate ":  1120384 ,
      " entityObje  ct ": " 1 . 1 . 1 . 1 ",
      " opAction ":  2 ,
      " opDesc ": {
     " oldValue ": {
    " elasticBan  dwidth ":  10
  },
  " newValue ": {
    " elasticBan  dwidth ":  30
  }
   },
      " opResult ":  1
    }
  ]
}
```

6.9 Error codes

Error code	Error message	Description
InvalidOrderType	Invalid Order Type.	The error message returned when the order type is invalid.
InvalidBaseBandwidth	Invalid Base Bandwidth.	The error message returned when the basic bandwidth is invalid.
InvalidElasticBandwidth	Invalid Elastic Bandwidth.	The error message returned when the burstable bandwidth is invalid.
InvalidPortLimit	Invalid Port Limit.	The error message returned when the number of ports is invalid.
InvalidDomainLimit	Invalid Domain Limit.	The error message returned when the number of domains is invalid.
InvalidNormalBandwidth	Invalid Normal Bandwidth.	The error message returned when the service bandwidth is invalid.
InvalidInstanceId	Invalid Instance Id.	The error message returned when the specified instance ID is invalid.
InvalidAliUid	Invalid Ali Uid.	The error message returned when the specified aliUid is invalid.
InstanceIdFormatError	Instance Id format error.	The error message returned when the format of the instance ID is invalid .
InvalidPageNo	Invalid Page No.	The error message returned when the page number is invalid.

Error code	Error message	Description
InvalidPageSize	Invalid Page Size.	The error message returned when the page size is invalid.
InvalidLine	Invalid Line.	The error message returned when the network line is invalid.
InvalidStatus	Invalid Status.	The error message returned when the status is invalid.
InvalidExpireTime	Invalid Expire Time.	The error message returned when the expiration time is invalid.
InvalidProductType	Invalid Product Type.	The error message returned when the product type is invalid.
InvalidStartTime	Invalid Start Time.	The error message returned when the start time is invalid.
InvalidEndTime	Invalid End Time.	The error message returned when the end time is invalid.
InvalidInstanceIdsSize	Invalid instanceIds size.	The error message returned when the number of instance IDs exceeds the limit.
InvalidInstanceRemark	Invalid instance remark.	The error message returned when the remark about the instance is invalid.
InternalError	Internal Error!	The error message returned when an internal error occurs.
ddos_coop3000	unknown error	The error message returned when an unknown error occurs.
ddos_coop3001	error request method	The error message returned when the request method is invalid.

Error code	Error message	Description
ddos_coop3002	http call failed	The error message returned when an error occurs while calling HTTP requests.
ddos_coop3003	no authority to do request	The error message returned when you are not authorized to perform the operation.
ddos_coop3004	receive unknown action	The error message returned when the specified request is invalid.
ddos_coop3005	auth failed	The error message returned when authentication fails.
ddos_coop3006	query db failed	The error message returned when an error occurs while querying the database.
ddos_coop3007	remote call selb central failed	The error message returned when an error occurs while calling the central controller.
ddos_coop3008	remote call ddos web failed	The error message returned when an error occurs while calling the specified service.
ddos_coop3101	encoding json failed	The error message returned when an error occurs while encoding JSON data.
ddos_coop3102	decoding json failed	The error message returned when an error occurs while decoding JSON data.
ddos_coop3103	failed parse string to int	The error message returned when an error occurs while parsing String to Int.

Error code	Error message	Description
ddos_coop3201	no enough params in request	The error message returned when one or more parameters are missing.
ddos_coop3202	params out of range	The error message returned when the parameter value exceeds the limit.
ddos_coop3203	start time must be earlier than end time	The error message returned when the start time is no earlier than the end time.
ddos_coop3301	no instance for process in db	The error message returned when the specified instance is not found in the database.
ddos_coop3302	reache port limit in spec	The error message returned when the number of ports exceeds the limit.
ddos_coop3303	l4 rule port is exist	The error message returned when the forwarding rule already exists.
ddos_coop3304	invalid rs ip address	The error message returned when the IP address is invalid.
ddos_coop12001	backend service exception	The error message returned when a service exception occurs.
ddos_coop12003	system exception	The error message returned when a system exception occurs.
ddos_coop12010	illegal sign	The error message returned when the signature is invalid.
ddos_coop12020	illegal timestamp	The error message returned when the timestamp is invalid.

Error code	Error message	Description
ddos_coop12030	illegal format	The error message returned when the data format is invalid.
ddos_coop12040	illegal service	The error message returned when the specified service does not exist.
ddos_coop12052	illegal aliyun idkp	The error message returned when the aliUid parameter is missing or the value is empty.
ddos_coop12302	listener not exists	The error message returned when the specified listener does not exist.
ddos_coop12610	lb or vs not exist	The error message returned when the specified load balancer or listener does not exist.
ddos_coop13000	db failed	The error message returned when a database connection error occurs.
ddos_coop13001	failed	The error message returned when the specified parameter is incorrect.
ddos_coop13010	json err	The error message returned when the JSON format is incorrect.
ddos_coop13020	param not enough	The error message returned when one or more parameters are missing.
ddos_coop13104	eip is released	The error message returned when the specified IP address is released.

Error code	Error message	Description
ddos_coop13105	eip not exist	The error message returned when the specified IP address does not exist.
ddos_coop15001	action not exist	The error message returned when the specified operation does not exist.
ddos_coop16020	auth fail	The error message returned when verification fails.
ddos_coop20403	auth failed	The error message returned when authentication fails.
ddos_coop20404	not found	The error message returned when the specified service is not found.
ddos_coop21001	invalid parameter	The error message returned when the specified parameter is invalid.
ddos_coop21002	invalid method	The error message returned when the specified method is invalid .
ddos_coop21003	invalid product	The error message returned when the specified product is invalid .
ddos_coop21004	invalid region	The error message returned when the specified region is invalid.
ddos_coop21005	no action found	The error message returned when the specified operation does not exist.

Error code	Error message	Description
ddos_coop21006	invalid action	The error message returned when the specified operation is invalid.
ddos_coop221007	action disabled	The error message returned when the specified API is disabled.
ddos_coop29999	system error	The error message returned when a system error occurs.