

# Alibaba Cloud Anti-DDoS Pro

## New Anti-DDoS Pro Service

Issue: 20190705

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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.	 <b>Danger:</b> 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.	 <b>Warning:</b> Restarting will cause business interruption. About 10 minutes are required to restore business.
	This indicates warning information, supplementary instructions, and other content that the user must understand.	 <b>Notice:</b> 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.	 <b>Note:</b> You can use Ctrl + A to select all files.
>	Multi-level menu cascade.	Settings > Network > Set network type
<b>Bold</b>	It is used for buttons, menus, page names, and other UI elements.	Click OK.
Courier font	It is used for commands.	Run the <code>cd / d C :/ windows</code> command to enter the Windows system folder.
<i>Italics</i>	It is used for parameters and variables.	<code>bae log list --instanceid Instance_ID</code>
[ ] or [a b]	It indicates that it is an optional value, and only one item can be selected.	<code>ipconfig [-all -t]</code>

Style	Description	Example
<code>{}</code> or <code>{a b}</code>	It indicates that it is a required value, and only one item can be selected.	<code>swich {stand   slave}</code>



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# 1 Product Introduction

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## 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

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### 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 [What is Anti-DDoS Pro](#).

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 $\leq$ 5 Gbit/s	USD 125 per day
5 Gbit/s < Bandwidth difference $\leq$ 10 Gbit/s	USD 186 per day
10 Gbit/s < Bandwidth difference $\leq$ 20 Gbit/s	USD 340 per day
20 Gbit/s < Bandwidth difference $\leq$ 30 Gbit/s	USD 588 per day

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

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](#).

## 2.3 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 ID <span>▼</span> Enter		<span>🔍</span>			
Instance	Line	IP Address	Date	Protection ⓘ	Actions
ID: ddoscoo-cn-mp915qlzv00s Name: -- <span>🔗</span>		203.113.113.113	Purchase Date:2019-6-4 Expiration Date:2019-7-5	Status : ● Normal <a href="#">Protection Settings</a> Protected Ports: 0 ( Maximum: 50 ) <span>🔗</span> Protected Domains: 0 ( Maximum: 50 ) <span>🔗</span> Protection Bandwidth:30G ( Burstable30G ) <span>🔗</span>	<a href="#">Renew</a> <a href="#">Upgrade</a> <a href="#">View Reports</a>
Plan:Professional Plan	Eight-line BGP ⓘ				
Protection Package:Standard					
Normal Bandwidth : 100M					

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 to protect your business

After you purchase Anti-DDoS Pro instances, you need to set up your instances to protect your business.

You can set up Anti-DDoS Pro instances by using one of the following methods:

- [Set up Anti-DDoS Pro instances using domains](#)
- [Set up Anti-DDoS Pro instances using IPs and ports](#)

Set up Anti-DDoS Pro instances using domains

1. Log on to the [Anti-DDoS Pro console](#).

In the left-side navigation pane, choose **Management > Instances** to view your Anti-DDoS Pro instances.

Instance	Line	IP Address	Date	Protection ⓘ	Actions
ID: ddoscoo-cn-78v12b12e003 Name: -- ⓘ Plan: Insurance Plan Normal Bandwidth : 100M	Eight-line BGP ⓘ	203 [icon] [icon] [icon]	Purchase Date:2019-3-29 Expiration Date:2019-4-30	Status : ● Normal Protected Ports: 0 ( Maximum: 5 ) ⓘ Protected Domains: 0 ( Maximum: 10 ) ⓘ Available Advanced Mitigations in this Month:2 [icon]	<a href="#">Renew</a> <a href="#">Upgrade</a> <a href="#">View Reports</a>

2. Choose **Management > Websites** and click **Add Domain**.



#### Note:

To set up Anti-DDoS Pro instances to protect your business, you only need to configure your domain in the Anti-DDoS Pro console.

### 3. You need to configure the following parameters:

Enter Site Information

Modify DNS Records

\* 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 [ddoscoo.domain.port.custom](#)


Select Anti-DDoS Pro Instance:

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

☐ ddoscoo-cn-78v12b12e003

☐ ddoscoo-cn-o4012azfu002

Parameter	Description
Domain	Enter the domain name of your website.
Protocol	<p>Select the protocols supported by your website. By default, HTTP and HTTPS are selected.</p> <div>  <b>Note:</b>            If your website supports HTTPS encrypted connections, you must select HTTPS. Select other protocols if applicable.         </div>
Server Address	<p>Select the address type of the origin server and specify the address.</p> <ul style="list-style-type: none"> <li>If Origin Server IP is selected, you can enter up to 20 IP addresses. When multiple origin server IPs are specified, Anti-DDoS Pro uses IP hash load balancing to forward traffic back to the origin server.</li> <li>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.</li> </ul>

Parameter	Description
Server Port/ Forwarding Port	<p>The system automatically sets the ports based on the protocols you have selected. You cannot modify these parameters.</p> <ul style="list-style-type: none"><li>· When HTTP or Websocket is selected, the port of the origin server is 80 by default.</li><li>· When HTTPS or Websockets is selected, the port of the origin server is 443 by default.</li></ul> <p>The forwarding port is the same as the port of the origin server.</p>
Select Anti-DDoS Pro Instance	<p>Select Anti-DDoS Pro instances based on your needs.</p> <div> <b>Note:</b> For each domain, you can select up to eight Anti-DDoS Pro instances.</div>

4. Click Add to go to the Modify DNS Records page. Change the DNS records of your domain to forward incoming traffic to the IP addresses of selected Anti-DDoS Pro instances.



**Note:**

Anti-DDoS Pro currently does not generate CNAME records. After you verify that Anti-DDoS Pro instances can forward traffic to the origin server, you need to change A record values to the IP addresses of these Anti-DDoS instances through your DNS provider. This forwards incoming traffic to these Anti-DDoS Pro instances.

Before you modify DNS records to forward incoming traffic to Anti-DDoS Pro, we recommend that you verify that Anti-DDoS Pro instances can forward traffic back to your origin server. For more information about testing domain configurations, see [Test domain configurations](#).

5. Click Next to view the back-to-origin IP addresses that Anti-DDoS Pro instances use to forward traffic back to the origin server.

If you are using additional firewalls to protect the origin server, disable the firewalls or add the back-to-origin IP addresses used by Anti-DDoS Pro instances to the whitelist. After you forward incoming traffic to Anti-DDoS Pro, Anti-DDoS Pro instances filter your traffic and use these back-to-origin IP addresses to forward

traffic back to the origin server. If you do not add these back-to-origin IP addresses to the whitelists of your firewalls, your traffic may be mistakenly blocked, causing service interruptions.

After you add a domain to Anti-DDoS Pro, the system automatically generates forwarding rules for the Anti-DDoS Pro instances you have selected. Your traffic is forwarded based on these rules.

- If the forwarding port is 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 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.

You cannot edit or delete rules that are automatically generated by the system. These rules are automatically deleted when the domains to which these rules apply are no longer associated with the Anti-DDoS Pro instances.

You can create rules to forward traffic on TCP port 80 or 443 only when these rules are automatically deleted from the Anti-DDoS Pro instances.

#### Set up Anti-DDoS Pro instances using IPs and ports

1. Log on to the [Anti-DDoS Pro console](#).

In the left-side navigation pane, choose Management > Instances to view your Anti-DDoS Pro instances.

2. Choose Management > Port Settings, select an Anti-DDoS Pro instance, and click Create Rule.



#### Note:

To set up Anti-DDoS Pro instances to protect your business, you only need to configure forwarding rules in the Anti-DDoS Pro console.



### 3. You need to configure the following parameters:

Create Rule

×

\* Forwarding ☒ TCP ☐ UDP

Protocol:

\* Forwarding Port:

\* Origin Server

Port:



LSV Forwarding Round-robin

Rule:

\* Origin Server IP :

Complete

Cancel

Parameter	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.  <div>  <b>Note:</b>  We recommend that you keep the forwarding port the same as the port of the origin server. </div>
Origin Server Port	Specify the port of the origin server.
Origin Server IP	Specify the IP address of the origin server.  <div>  <b>Note:</b>  You can enter up to 20 IP addresses for load balancing. </div>

### 4. Click Complete.

After a forwarding rule is generated, you can configure session persistence, health check, and Anti-DDoS protection policies based on your needs. For more information, see documents on [session persistence](#), [health check](#), and [Anti-DDoS protection policies](#).

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

Before you forward incoming traffic to Anti-DDoS Pro, we recommend that you verify that the Anti-DDoS Pro instance can forward traffic back to your origin server. For more information about testing port forwarding, see [Test forwarding rules](#).

## 3.2 Set up Anti-DDoS Pro using domains

### 3.2.1 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
<a href="#">Step 1: Add a website</a>	In the Anti-DDoS Pro console, add your website to associate its domain with an Anti-DDoS Pro instance, and configure traffic forwarding.
<a href="#">Step 2: Change DNS records</a>	<p>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.</p> <p>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.</p>
<a href="#">Step 3: Configure DDoS protection policies</a>	<p>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:</p> <p>scrubbing mode, blacklist and whitelist, black hole, and traffic blocking.</p>

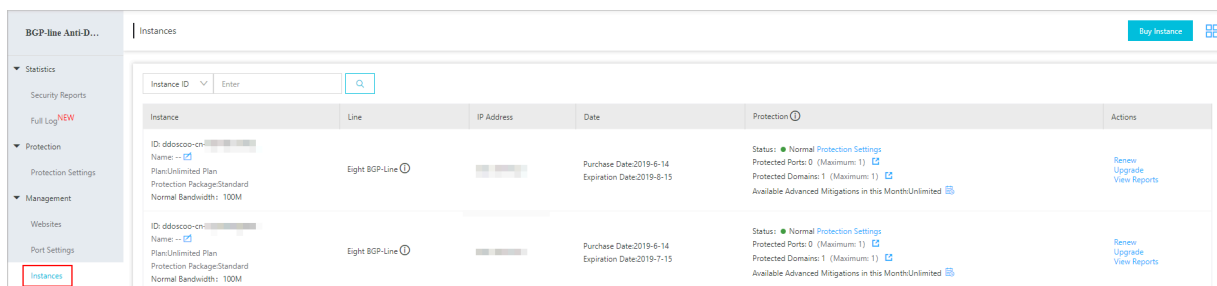
Task	Description
<b>Step 4: Configure HTTP flood protection policies</b>	After you set up an Anti-DDoS Pro instance to protect your service, you can configure the following HTTP flood protection policies to protect your site against HTTP flood attacks:  blacklist and whitelist, HTTP flood protection.
<b>Step 5: View security reports and log data</b>	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.

### 3.2.2 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.

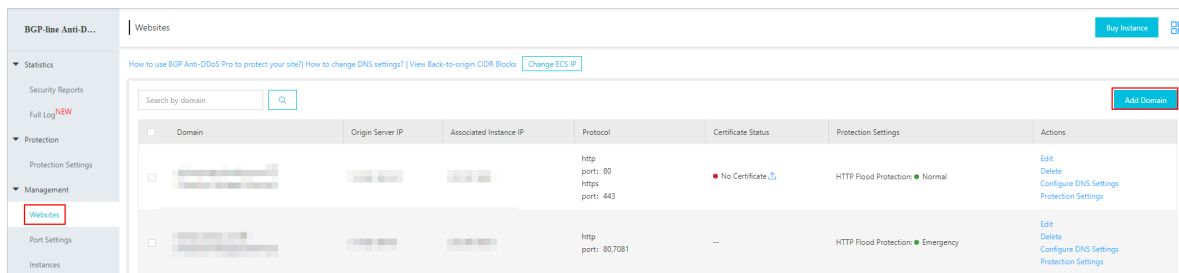
#### Prerequisites

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 [Buy Anti-DDoS Pro instances](#).







#### 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.



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	<p>The type of Anti-DDoS Pro instance that you want to associate with the domain. Valid values:</p> <ul style="list-style-type: none"><li>· Standard</li><li>· Enhanced</li></ul>
Instance	<p>Available instances are listed based on the specified Protection Package.</p> <div> <b>Note:</b> 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 instance to the Enhanced type.</div> <p>Select one or more instances to associate with the domain.</p> <div> <b>Note:</b> You can associate a domain with a maximum of eight Anti-DDoS Pro instances. Besides, these instances must be under the same Protection Package.</div>
Domain	<p>The domain of the website that you want to protect.</p> <div> <b>Note:</b></div> <ul style="list-style-type: none"><li>· Supports wildcard domains, such as *.aliyun.com. Anti-DDoS Pro automatically matches all subdomains for the wildcard domain.</li><li>· 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 protection policies of the specific domain name.</li></ul>

Item	Description
Protocol	<p>The protocols supported by your website. Valid values:</p> <ul style="list-style-type: none"><li>· HTTP (Selected by default)</li><li>· HTTPS (Selected by default)</li><li>· Websocket</li><li>· Websockets</li></ul> <div> <b>Note:</b> If your website supports HTTPS encrypted connections, you must select HTTPS. Select other protocols if applicable.</div>
Server Address	<p>Select the address type of the origin server and specify the address. Supported address types are as follows:</p> <ul style="list-style-type: none"><li>· <b>Origin Server IP:</b> 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.</li><li>· <b>Origin Server Domain:</b> 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.</li></ul>

Item	Description
Origin server ports	<p>The server ports are automatically assigned based on the protocols you have selected.</p> <div>  <b>Note:</b>  The forwarding port is the same as the port of the origin server. </div> <ul style="list-style-type: none"> <li>When HTTP or Websocket is selected, the port is set to 80 by default.</li> <li>When HTTPS or Websockets is selected, the port is set to 443 by default.</li> </ul> <p>Anti-DDoS Pro allows you to specify custom ports. You can click Custom to select ports other than the default ones.</p> <div> <div>Server Port: HTTP 80 HTTPS 443 <span>Custom</span></div> <div> <div>Server Port: HTTP HTTPS <span>Save Cancel</span></div> <div>80,8080</div> <div>If there are other ports, please add them and separate them by " <span>View optional range</span></div> </div> </div> <ul style="list-style-type: none"> <li><b>Standard instance:</b> The optional HTTP/Websocket ports are 80 and 8080. The optional HTTPS/Websockets ports are 443 and 8443.</li> <li><b>Enhanced instance:</b> The optional HTTP/Websocket and HTTPS/Websockets ports are described in the following figures.</li> </ul> <div> <div>Optional port range</div> <div> <div>http/websocket https/websockets</div> <div>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</div> </div> </div> <div> <div>Optional port range</div> <div> <div>http/websocket https/websockets</div> <div>443, 4443, 5443, 6443, 7443, 8443, 9443, 8553, 8663, 9553, 9663, 18980</div> </div> </div>

\* 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](#)

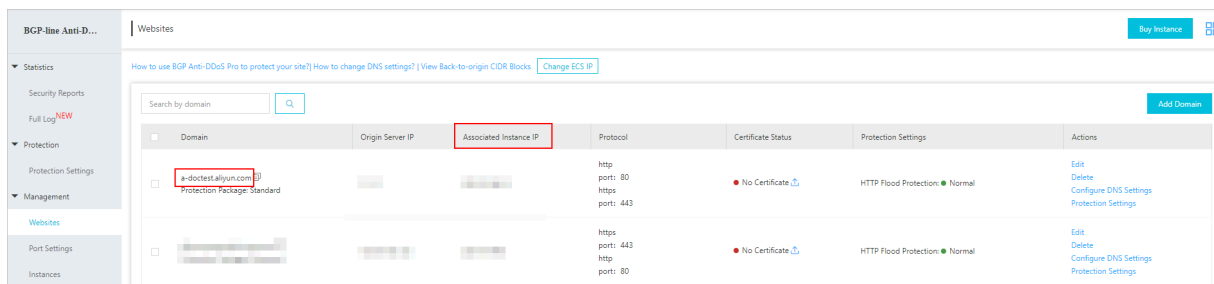
**Scan QR code,**  
Join Anti-DDoS Pro Expert Consulting group

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 Anti-DDoS Pro Instance.



## What's next

- [Step 2: Change DNS records](#)
- [Upload SSL certificates](#): If your website supports the HTTPS protocol, you must upload your SSL certificate to enable Anti-DDoS Pro to filter HTTPS requests.

### 3.2.3 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 [Step 1: Add a website](#).
- 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 [Add Anti-DDoS Pro back-to-origin CIDR blocks to the whitelist](#).

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 [Use NS records to set up Anti-DDoS Pro](#).

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 console](#).
2. On the Manage DNS page, select domain `ddostest . com`, and click **Configure** in the Actions column.

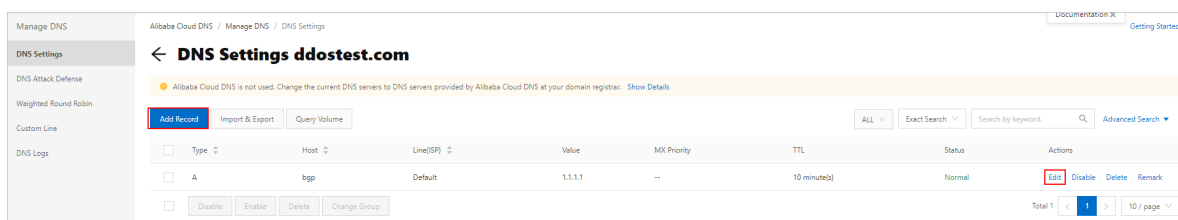


3. On the DNS Settings page, select the A record whose host is `bgp`, and click **Edit** in the Actions column.



#### Note:

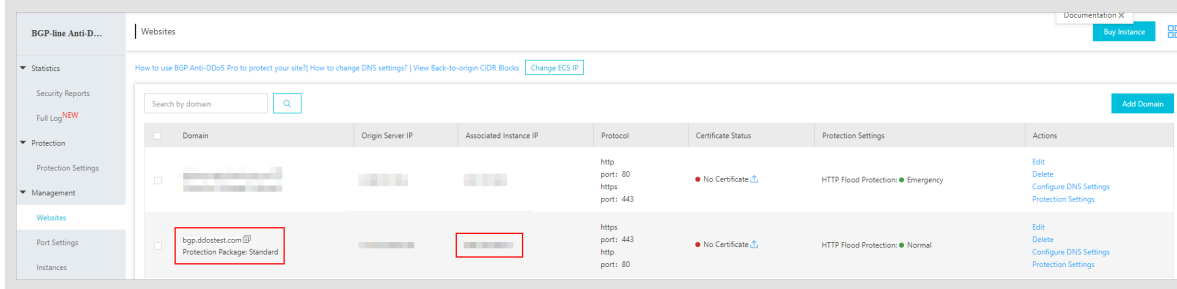
If you cannot find the A record in the list, you can click **Add Record**.



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](#) and select Management > Websites. For more information, see [Step 1: Add a website](#).



**Edit Record** ✕

Type: A- IPV4 address ▼

Host: .ddostest.com ?

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

\* Value:

\* TTL: 10 minute(s) ▼

Cancel OK

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

What's next

[Step 3: Configure DDoS protection policies](#)

### 3.2.4 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 [Step 1: Add a website](#).

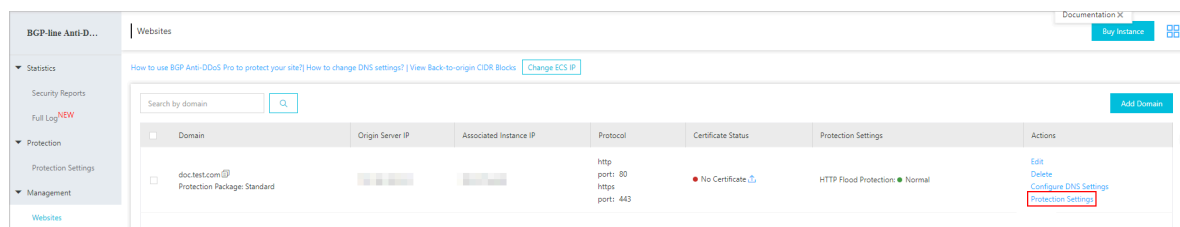
#### Context

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.



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.

The screenshot shows the 'Protection Settings' page with the 'Anti-DDoS Protection Policies' tab selected. A table lists several instances with their respective Smart Defense Modes. The 'Modify Smart Defense Mode' dialog box is open, showing three options: Low, Normal (selected), and Strict. The dialog also includes a description of the Normal mode and OK/Cancel buttons.

Instance	Line	IP Address	Smart Defense Mode Switch	Smart Defense Mode	Actions
ddoscoo-cn-...	coop-line-shenzhen-CT	...	On	Strict	Modify Smart Defense Mode
ddoscoo-cn-...	coop-line-shenzhen-CT	...	On	Normal	Modify Smart Defense Mode
ddoscoo-cn-...	coop-line-001	...	On	Normal	Modify Smart Defense Mode
ddoscoo-cn-...	coop-line-001	...	On	Normal	Modify Smart Defense Mode

**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.

OK Cancel

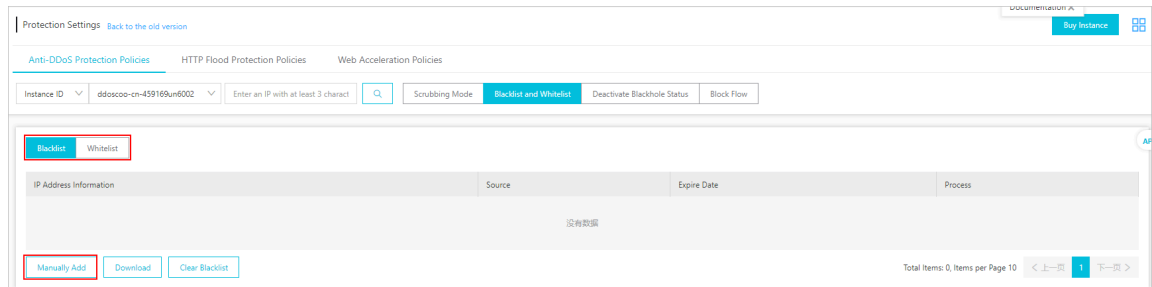
- **Blacklist and Whitelist**



**Note:**

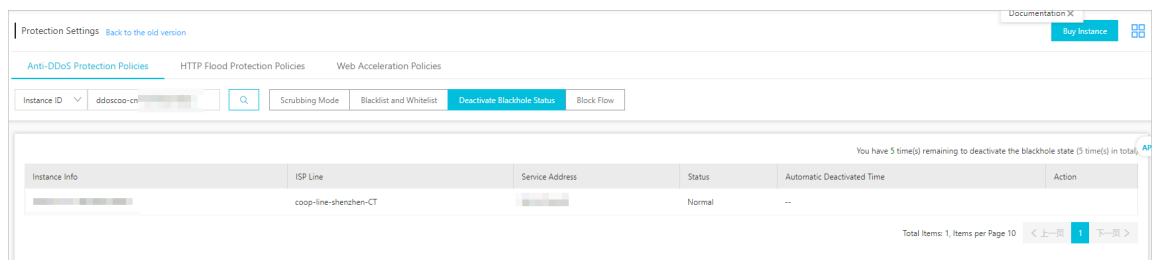
The configurations of the blacklist and whitelist are effective for individual domains, not Anti-DDoS Pro instances.

You can click **Manually Add** to add IP addresses to the blacklist or whitelist. For more information, see [Configure the blacklist and whitelist](#).



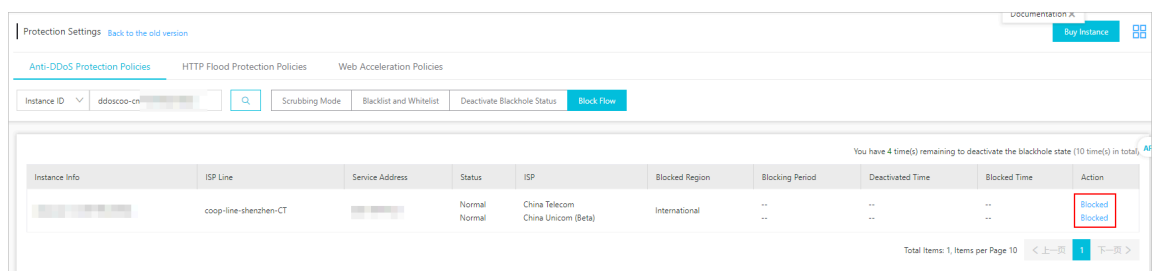
- **Deactivate Blackhole Status**

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 [Deactivate the black hole status](#).



- **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 [Block traffic flow](#).



### 3.2.5 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 [Step 1: Add a website](#).

## 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.

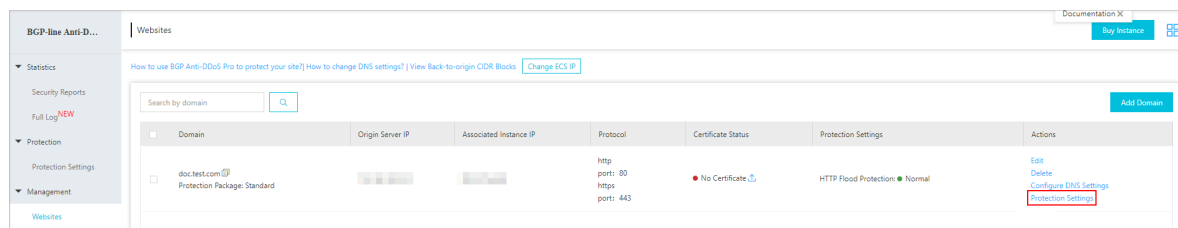


### Note:

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 [New protection policies](#).

## 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.

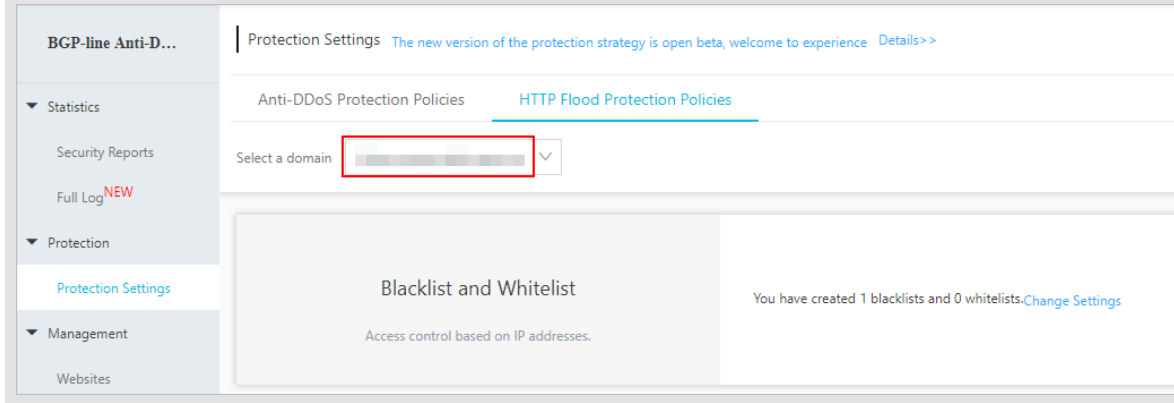


4. On the Protection Settings page, click HTTP Flood Protection Policies and perform the following steps based on your needs:



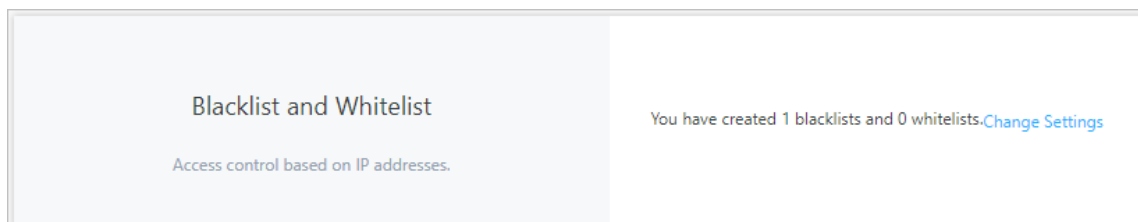
**Note:**

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



#### • Blacklist and Whitelist

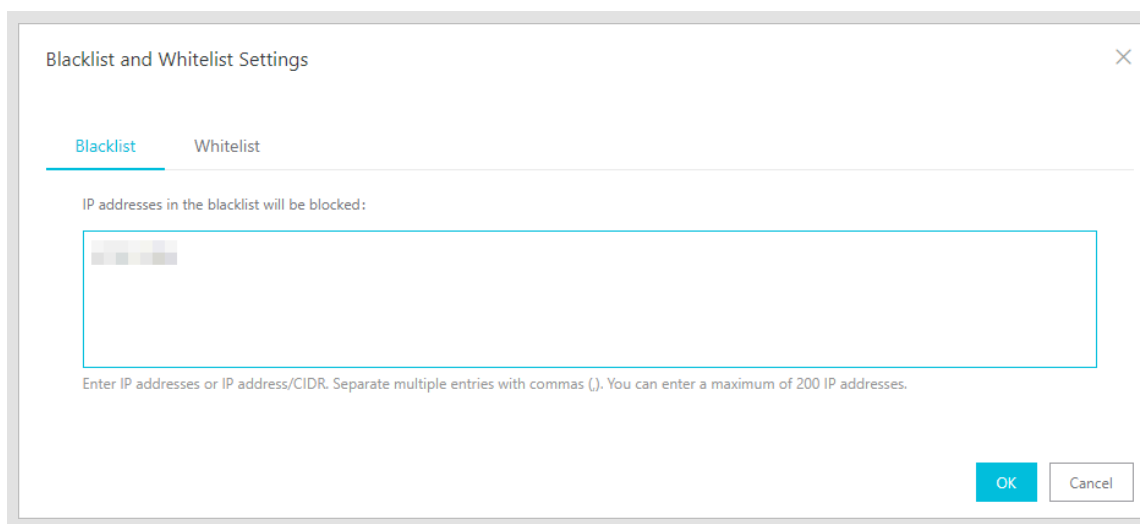
Select Blacklist and Whitelist, and click Change Settings. In the Blacklist and Whitelist Settings dialog box, add IP addresses or CIDR blocks to the blacklist and whitelist respectively.



**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

Blacklist Whitelist

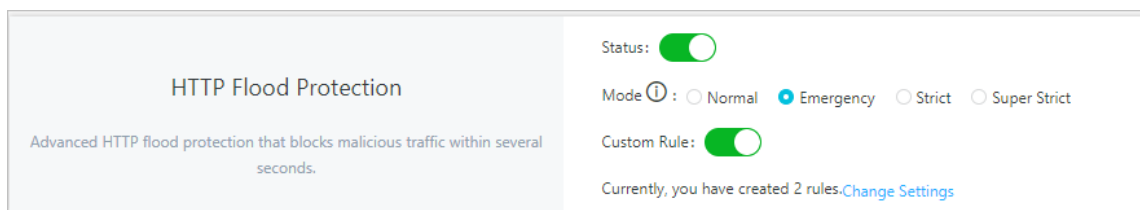
IP addresses in the blacklist will be blocked:

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

OK Cancel

- **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.

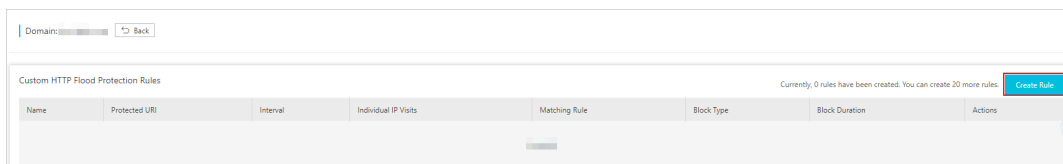


**Note:**

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 [Configure HTTP flood protection](#).

- 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.



- 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	<p>The rule that determines whether a request is counted. Valid values:</p> <ul style="list-style-type: none"> <li>■ <b>Exact Match:</b> A request is counted when the requested URI is the same as the protected URI.</li> <li>■ <b>Prefix Match:</b> A request is counted when the prefix of the requested URI is the same as the protected URI.</li> </ul>
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	<p>The action to be performed when the custom rule is triggered.</p> <ul style="list-style-type: none"><li>■ <b>Block:</b> Blocks requests from the source IP address for a specific time period.</li><li>■ <b>Captcha Verification:</b> Redirects the request to a captcha verification page. To access your site, the user must pass the captcha verification.</li></ul>

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.

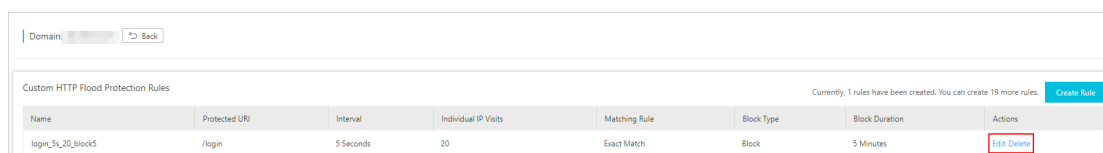
OK

Cancel

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.



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	<a href="#">Edit</a> <a href="#">Delete</a>

### 3.2.6 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 [Step 1: Add a website](#).
- You have changed DNS records to forward traffic to Anti-DDoS Pro. For more information, see [Step 2: Change DNS records](#).

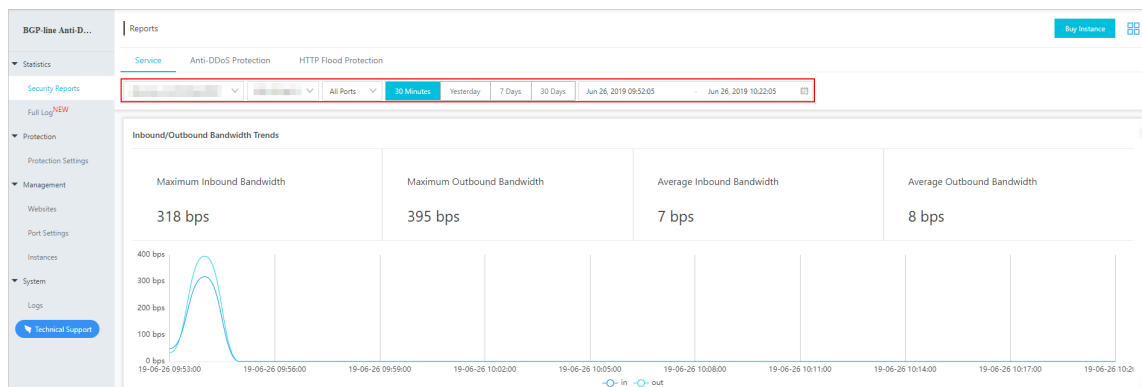
#### Procedure

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	<ul style="list-style-type: none"> <li>- Changes of inbound and outbound bandwidth</li> <li>- Changes of concurrent connections and new connections</li> </ul>	<ul style="list-style-type: none"> <li>- Time range</li> <li>- Anti-DDoS Pro instance</li> <li>- Anti-DDoS Pro instance IP</li> <li>- Forwarding port</li> </ul>
Anti-DDoS Protection	<ul style="list-style-type: none"> <li>- Changes of back-to-origin traffic and scrubbed traffic</li> <li>- Records of DDoS attacks</li> </ul>	<ul style="list-style-type: none"> <li>- Time range</li> <li>- Anti-DDoS Pro instance</li> <li>- Anti-DDoS Pro instance IP</li> </ul>

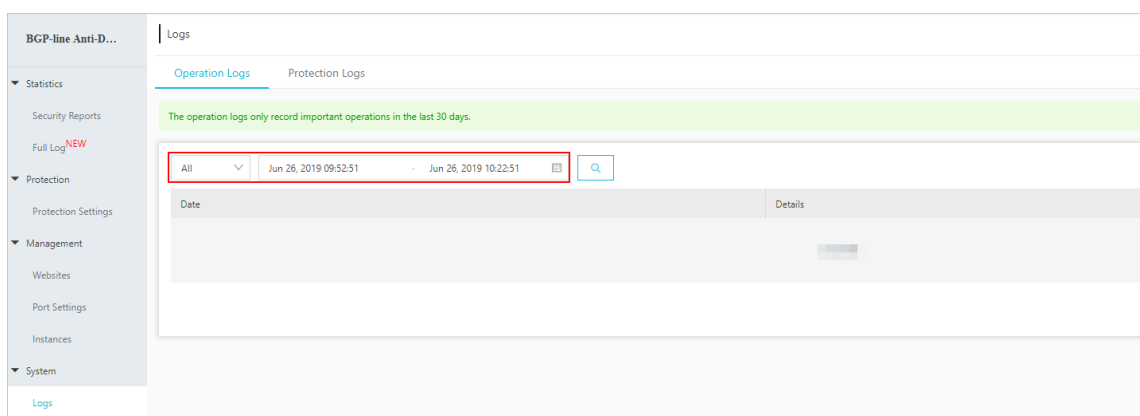
Report	Content	Filter condition
HTTP Flood Protection	<ul style="list-style-type: none"> <li>- Changes of malicious requests and total requests</li> <li>- Records of HTTP flood attacks</li> </ul>	<ul style="list-style-type: none"> <li>- Time range</li> <li>- Protected domain</li> </ul>

For more information, see [View security reports](#).

- 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.



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:

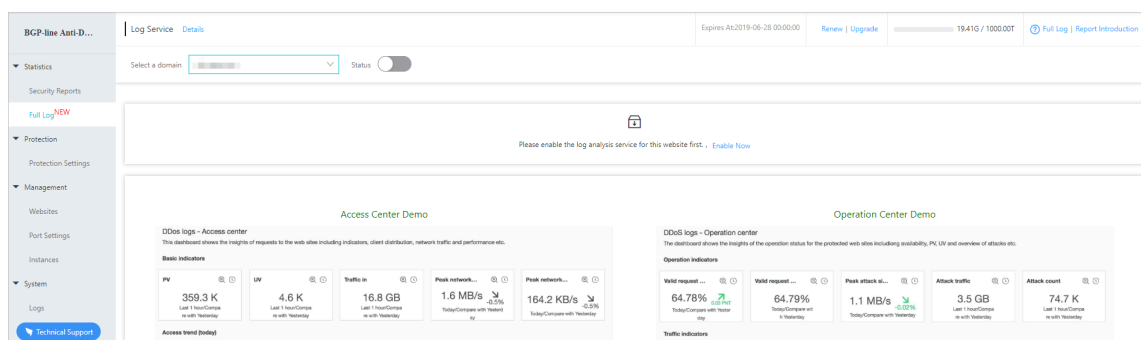
- Activate Anti-DDoS Pro Full Log Service. For more information, see [Activate the full log service](#).
- Enable Anti-DDoS Pro Full Log Service. For more information, see [Enable the full log service](#).

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 [Fields](#).



## 3.3 Set up Anti-DDoS Pro using IPs and ports

### 3.3.1 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
<a href="#">Step 1: Create a port forwarding rule</a>	Create port forwarding rules in the Anti-DDoS Pro console . Change the service IP to the IP address of your Anti-DDoS Pro instance.

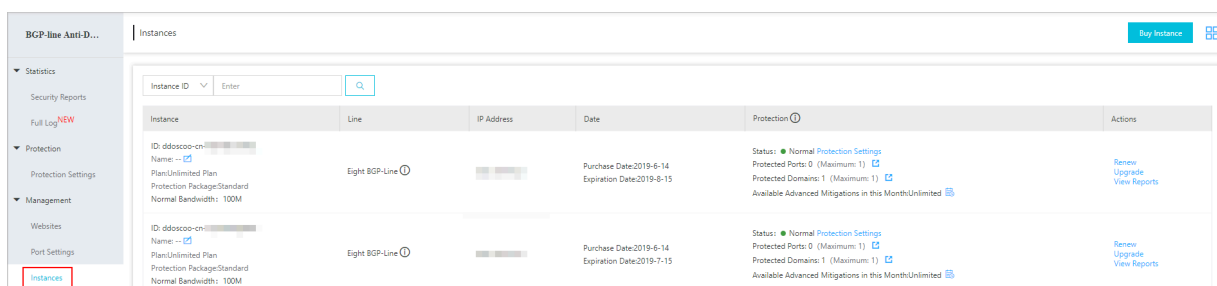
Task	Description
<a href="#">Step 2: Configure protection policies</a>	After creating a port forwarding rule, you can edit custom settings, such as session persistence, health check, and DDoS protection policies.
<a href="#">Step 3: View traffic statistics</a>	After you set up an Anti-DDoS Pro instance to protect your service, you can view the traffic that goes through your service in the Anti-DDoS Pro console.

### 3.3.2 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 [Buy Anti-DDoS Pro instances](#).



#### 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.

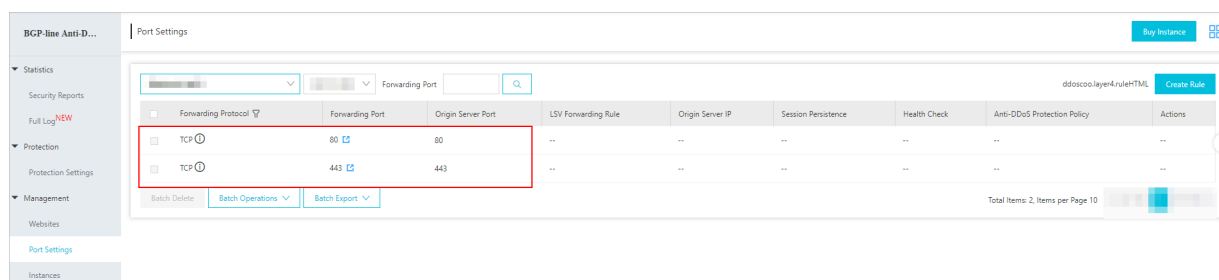
#### Manage forwarding rule conflicts

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 [Step 1: Add a website](#).

- 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.



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.

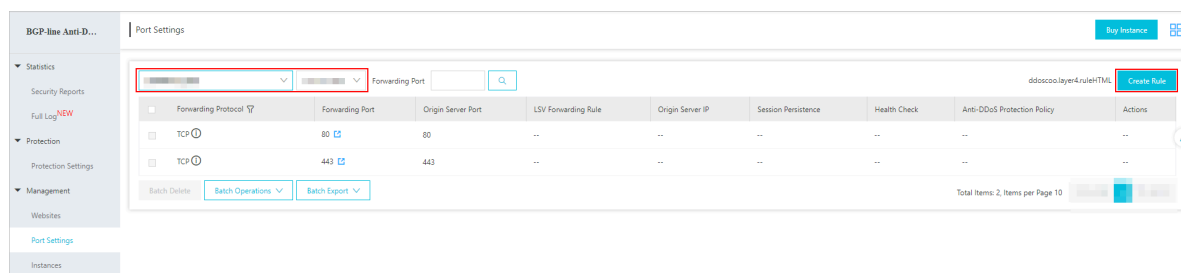


#### Notice:



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.



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.  <div>  <b>Note:</b> We recommend that you keep the forwarding port the same as the port of the origin server. </div>
Origin Server Port	Specify the port of the origin server.
Origin Server IP	Specify the IP address of the origin server.  <div>  <b>Note:</b> You can enter up to 20 IP addresses for load balancing. </div>

Create Rule

×

\* Forwarding ☒ TCP ☐ UDP

Protocol:

\* Forwarding Port:

\* Origin Server Port:

LSV Forwarding Round-robin

Rule:

\* Origin Server IP:

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

Complete

Cancel

### 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 [Step 2: Configure protection policies](#).

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.

## 3.3.3 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 [Step 1: Create a port forwarding rule](#).

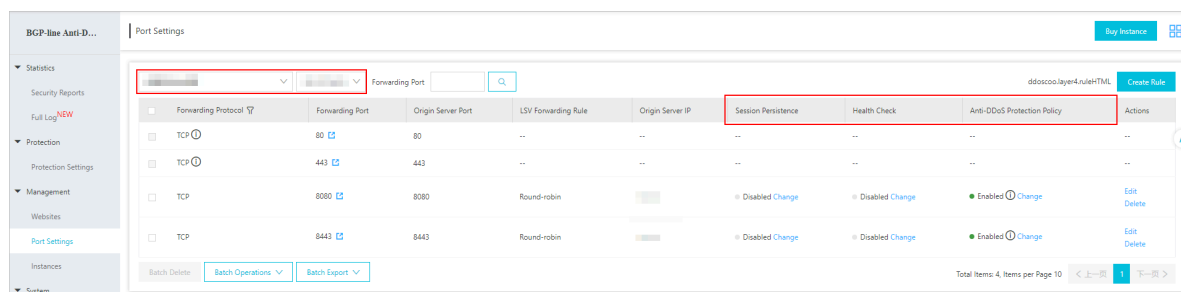
#### Context

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.



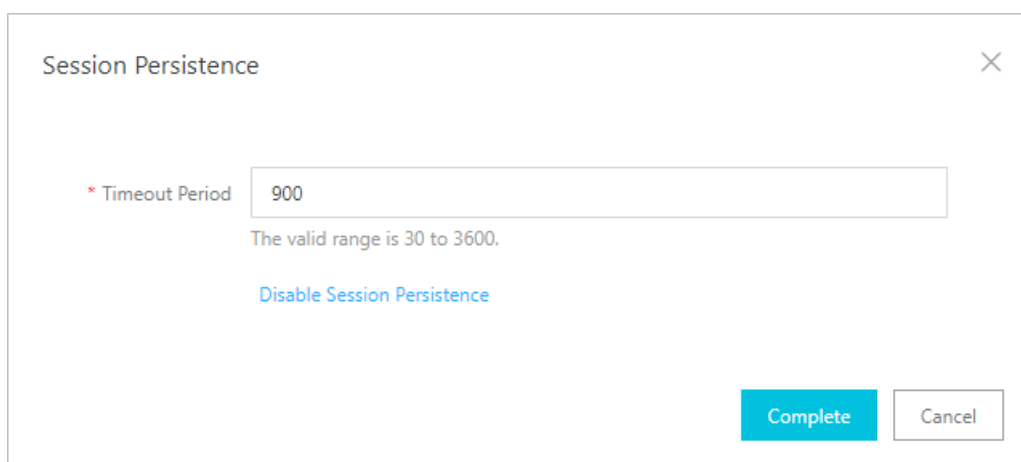
4. Select a port forwarding rule and configure the session persistence, health check, and anti-DDoS protection policies based on your needs.

- 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.

The image shows a 'Session Persistence' dialog box. It has a title bar with the text 'Session Persistence' and a close button (X). Inside the dialog, there is a label '\* Timeout Period' followed by a text input field containing the value '900'. Below the input field, a message states 'The valid range is 30 to 3600.' There is a blue link labeled 'Disable Session Persistence'. At the bottom right, there are two buttons: 'Complete' (in blue) and 'Cancel' (in white with a grey border).

- 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	<p>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.</p> <ul style="list-style-type: none"> <li>- If you do not want to use the default homepage for health checks, you must enter a domain and path of another page.</li> <li>- 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.</li> </ul>
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 ×

Layer 4 Health Check Layer 7 Health Check

\* Port

8080

The origin port is used by default. The valid range is 1 to 65535.

Advanced Settings

\* Response Timeout

5

Period 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

3

Threshold 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.

Complete Cancel

Health Check ×

Layer 4 Health Check Layer 7 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.


Advanced Settings

Complete Cancel

- 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	<p>Detects and blocks null session connections. This setting is only applicable to TCP rules.</p> <div>  <b>Note:</b> To enable Empty Connections, you must enable False Source first. </div>
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:

☒

Empty Connection ⓘ :

☒

\* Source New Connection

Rate Limit ⓘ :

☐ Automatic ☐ Manual ☒ Cancel

\* Source Concurrent

Connection Rate Limit:

☐

\* Destination New

Connection Rate Limit ⓘ :

☐

\* Destination Concurrent

Connection Rate Limit:

☐

\* Packet Length Limit ⓘ :

-  Byte

Range 0 - 6000

OK

Cancel

c. Click OK.

### 3.3.4 Step 3: View traffic statistics

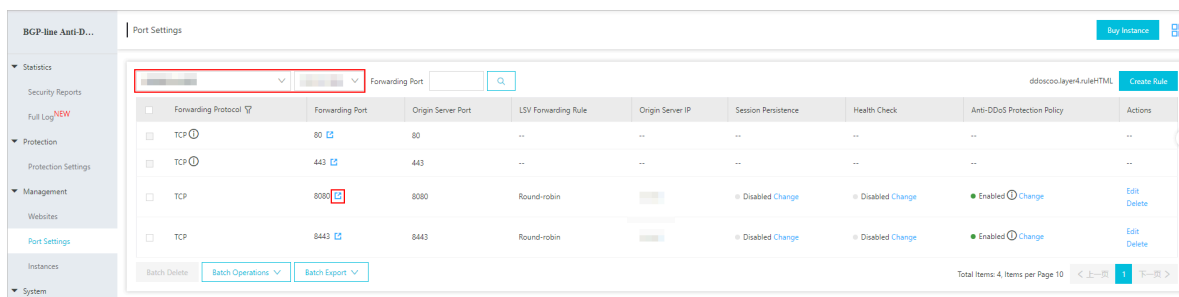
After you set up an Anti-DDoS Pro instance to protect your service, you can view the traffic that goes through your service in the Anti-DDoS Pro console.

#### Prerequisites

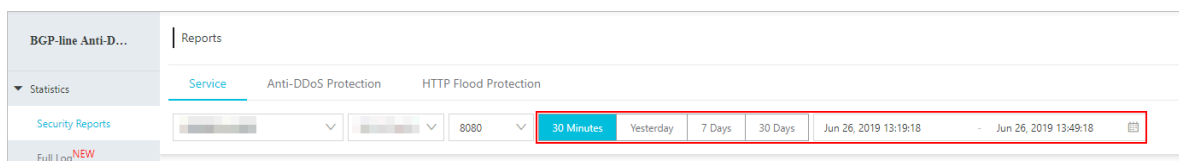
You have added port forwarding rules. For more information, see [Step 1: Create a port forwarding rule](#).

#### Procedure

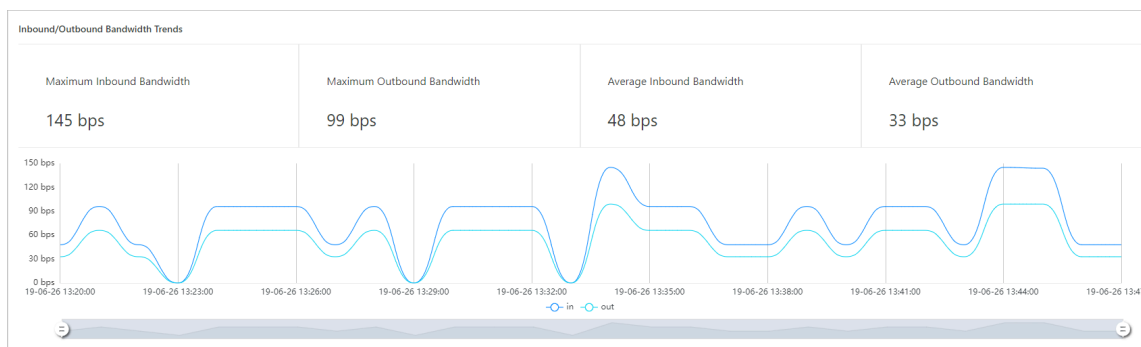
1. Log on to the [Anti-DDoS Pro console](#).
2. In the left-side navigation pane, choose **Management > Port Settings**.
3. On the Port Settings page, select an Anti-DDoS Pro instance.
4. Select a port forwarding rule and click the redirect icon in the **Forwarding Port** column.



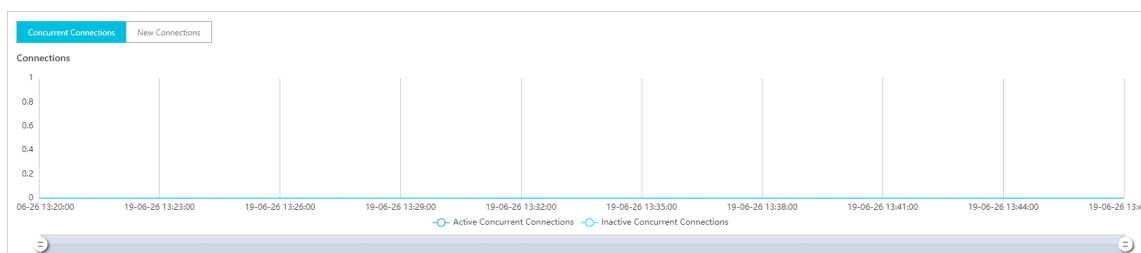
5. On the Reports page, click the **Service** tab and select a time period to view traffic data. You can select from the following time periods: 30 minutes, yesterday, 7 days, 30 days, or a custom period within the last 30 days. The traffic data includes the following information:



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



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



## 4 User Guide

### 4.1 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

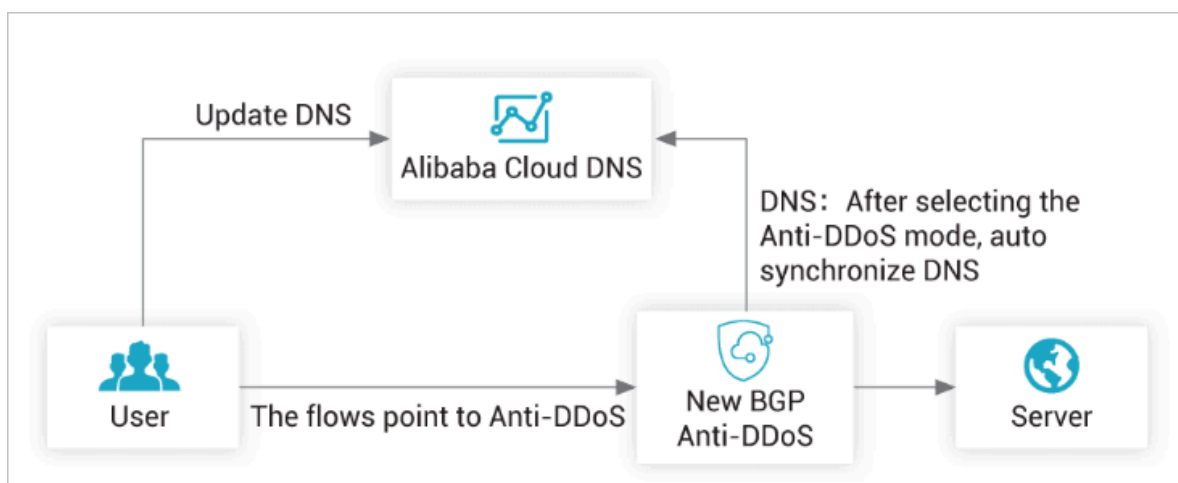
Your domain is managed under a paid version of Alibaba Cloud DNS. Otherwise, you cannot enable NS Mode Access. We recommend that you [activate a paid version of Alibaba Cloud DNS](#).

#### Context

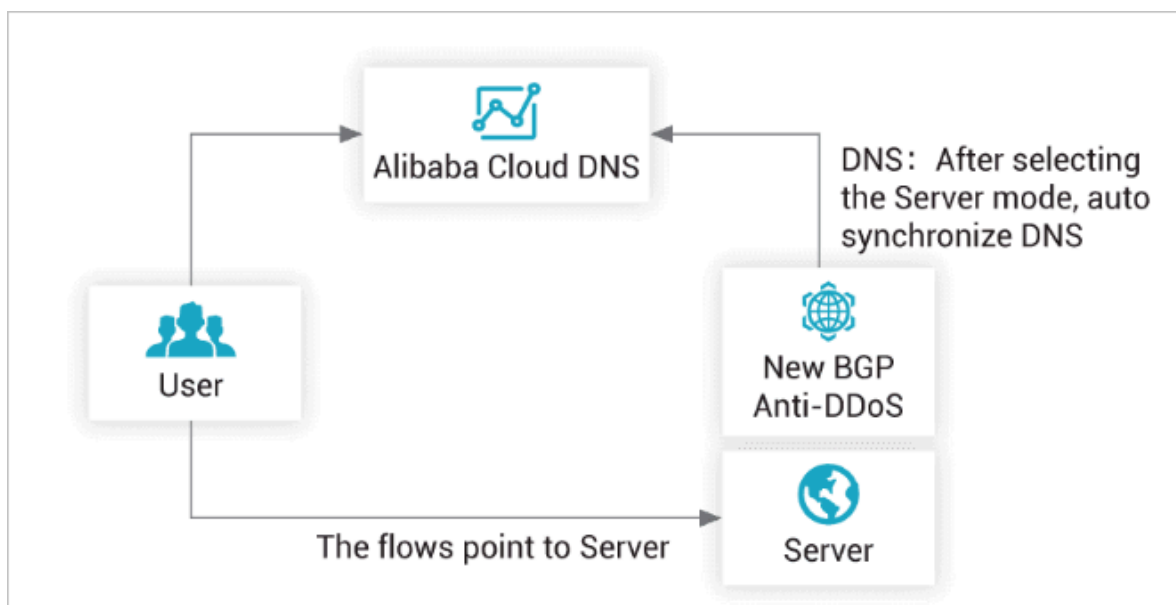
NS Records are nameserver records. You can use NS records to specify which DNS server is used to resolve your domain name.

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.



- 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.



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.

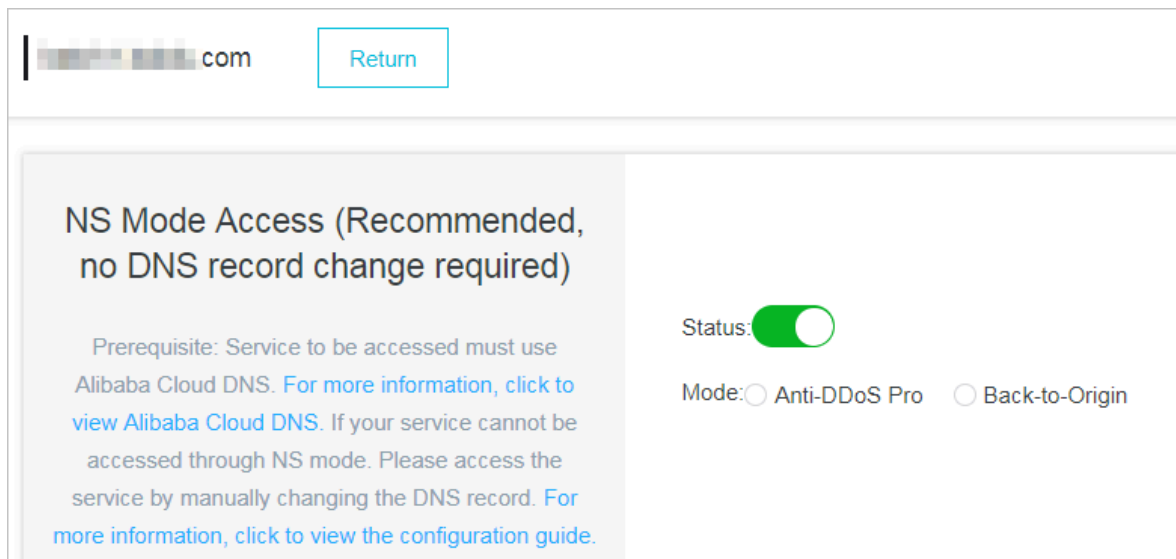
Domain	Origin Server IP	Associated Instance IP	Protocol	Certificate Status	Protection Settings	Actions
<input type="checkbox"/> [Domain]	[IP]	203 [IP]	http ddoscoo.common.port : 80 https ddoscoo.common.port : 443	No Certificate 	HTTP Flood Protection: ● Disabled	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Configure DNS Settings</a> <a href="#">Protection Settings</a>

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.



The screenshot shows a web interface for configuring NS Mode Access. At the top, there is a domain name field containing a placeholder image and ".com", and a "Return" button. Below this, the main configuration area is divided into two sections. The left section, titled "NS Mode Access (Recommended, no DNS record change required)", contains a prerequisite notice: "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." The right section shows the "Status" as a green toggle switch and the "Mode" as two radio buttons: "Anti-DDoS Pro" (selected) and "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.

## 4.2 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 [Step 1: Add a website](#).

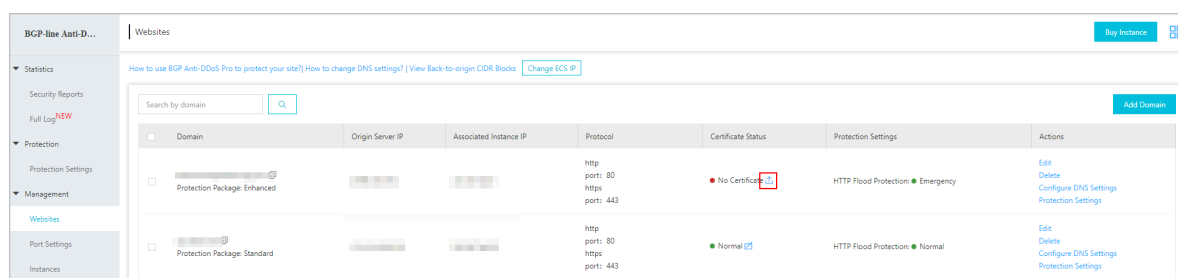
- You have prepared the certificate files.

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

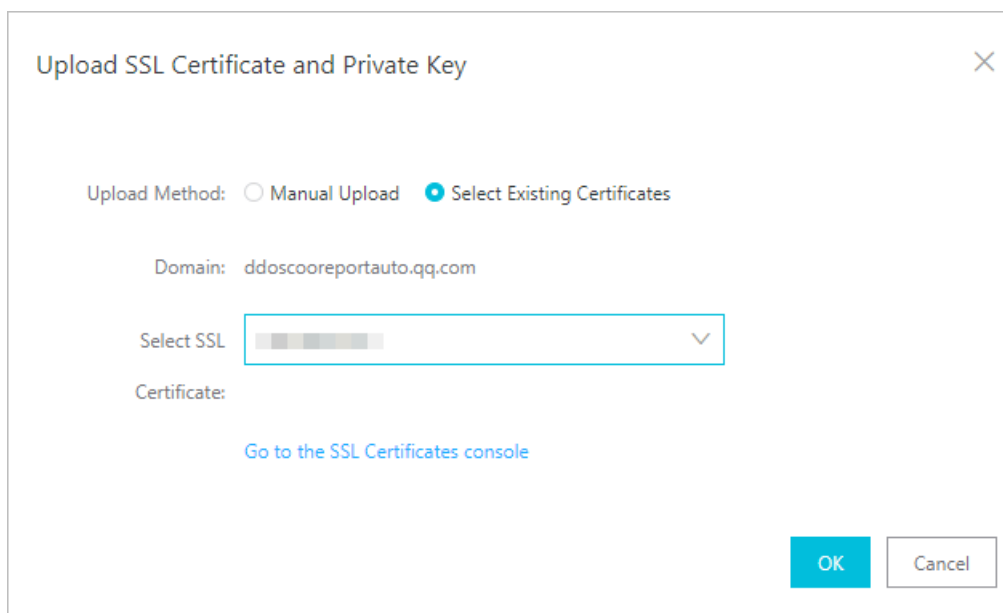
1. Log on to the [Anti-DDoS Pro console](#).
2. In the left-side navigation pane, choose Management > Websites.
3. In the Websites list, select your domain and click the upload icon in the Certificate Status column.



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.



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 [Upload certificates](#).

- 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 -----
xxxxxxxxxxx  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  Y7yZIo2ZUu
l02SIDNggI  Eeg ==
----- END    CERTIFICAT  E -----
```

### Private key file example

```
----- BEGIN    RSA    PRIVATE    KEY -----
xxxxxxxxxxx  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:

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/3NKNjqNv6xA2gYpinVDzFdZ9Zujxvu9o4Vqf0YF8bv5UK5G04Rt

KadOw==

-----END RSA PRIVATE KEY-----

OK

Cancel

5. Click OK.



## Result

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

## 4.3 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.

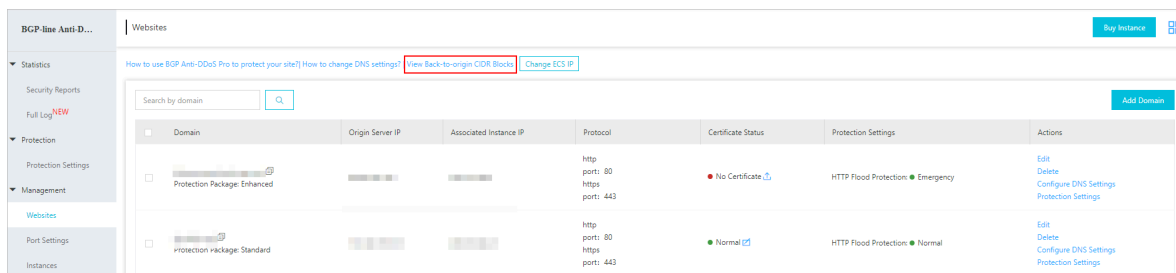
For example, the most commonly found 502 error indicates that when Anti-DDoS Pro forwards requests to the origin server, the server is not responding. The reason may be that the back-to-origin IP address is blocked by the firewall on the origin server.

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.



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



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

## 4.4 Configure layer 4 protection

### 4.4.1 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.

Settings	Description
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.

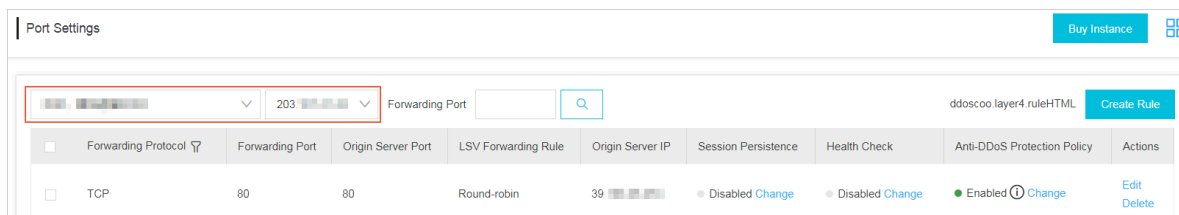


**Note:**

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.



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: ☒

Empty Connection ⓘ : ☒

\* Source New Connection

Rate Limit ⓘ : ☐ Automatic ☐ Manual ☒ Cancel

\* Source Concurrent

Connection Rate Limit: ☐

\* Destination New

Connection Rate Limit ⓘ ☐

OK Cancel

#### 4.4.2 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					
Instance ID <input type="text" value="Enter"/>		<input type="text" value="Q"/>	Scrubbing Mode	Blacklist and Whitelist	Deactivate Blackhole Status
Instance	Line	IP Address	Smart Defense Mode Switch ⓘ	Smart Defense Mode ⓘ	Actions
ddoscoo-cn-v6416enj700d	coop-line-shenzhen-CT	203.111.111.111	<input checked="" type="checkbox"/>	Normal	<a href="#">Modify Smart Defense Mode</a>
ddoscoo-cn-mp915qlzv00s	coop-line-001	203.111.111.111	<input checked="" type="checkbox"/>	Normal	<a href="#">Modify Smart Defense Mode</a>



#### 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.

OK

Cancel

### 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.

Instance ID: ddoscoo-cn-78v12b12e003

Enter an IP with at least 3 charac

Scrubbing Mode: Blacklist and Whitelist

Blacklist Whitelist

IP Address Information	Source	Expire Date
192.168.1.1	Manually Add	2019/4/1 11:11:21

Manually Add Download Clear Blacklist

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.

Add Clear Cancel



**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.

### 4.4.3 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.

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

## 4.4.4 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.

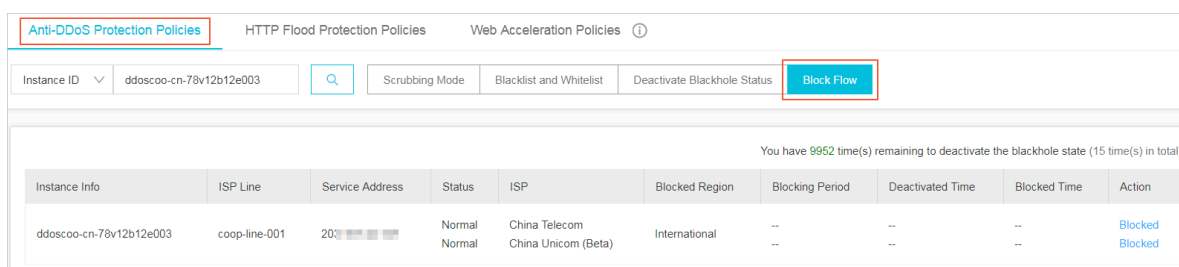
### Context

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.



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  Hour(s)  Minute(s) ⓘ

Confirm Cancel

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.

## 4.5 Configure layer 7 protection

### 4.5.1 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.

Search by domain		Add Domain					
<input type="checkbox"/>	Domain	Origin Server IP	Associated Instance IP	Protocol	Certificate Status	Protection Settings	Actions
<input type="checkbox"/>	ddoscoo.com		203.	http ddoscoo.common.port : 80 https ddoscoo.common.port : 443	No Certificate ⬇	HTTP Flood Protection: Disabled	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Configure DNS Settings</a> <a href="#">Protection Settings</a>

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

Blacklist

Whitelist

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.

OK

Cancel



#### 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.

## 4.5.2 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.

Search by domain		Add Domain					
<input type="checkbox"/>	Domain	Origin Server IP	Associated Instance IP	Protocol	Certificate Status	Protection Settings	Actions
<input type="checkbox"/>	ddoscoo.com		203	http ddoscoo.common.port : 80 https ddoscoo.common.port : 443	No Certificate	HTTP Flood Protection: Disabled	<a href="#">Edit</a> <a href="#">Delete</a> <a href="#">Configure DNS Settings</a> <a href="#">Protection Settings</a>

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



### Note:

You can click Status to disable HTTP flood protection.

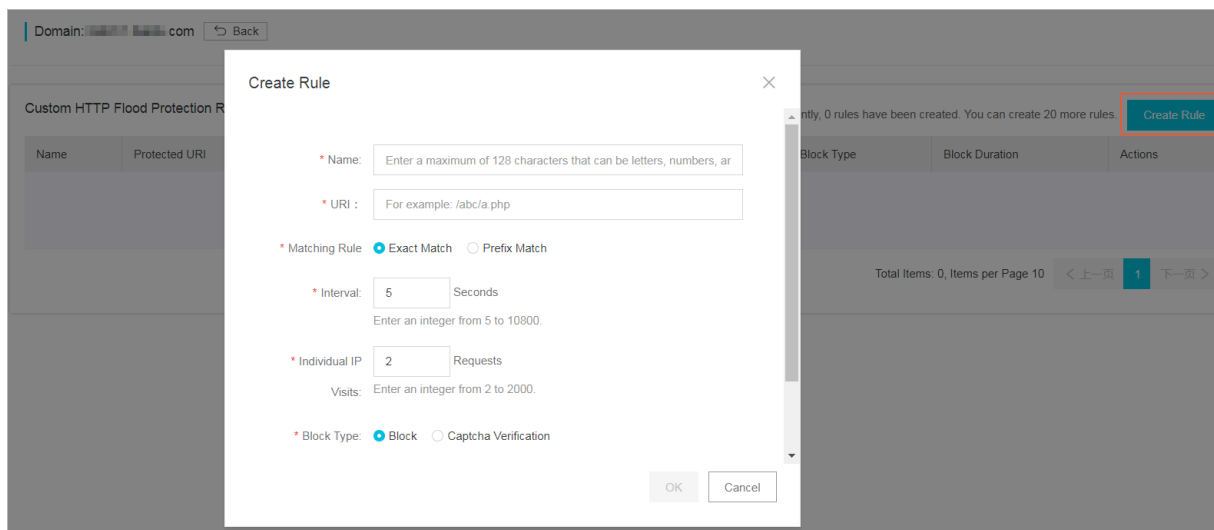
<h3>HTTP Flood Protection</h3> <p>Advanced HTTP flood protection that blocks malicious traffic within several seconds.</p>		Status : <input checked="" type="checkbox"/>
Mode ⓘ : <input checked="" type="radio"/> Normal <input type="radio"/> Emergency <input type="radio"/> Strict <input type="radio"/> Super Strict		Custom Rule : <input type="checkbox"/>

## 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.





### 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.

### 4.5.3 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.

## 4.6 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.

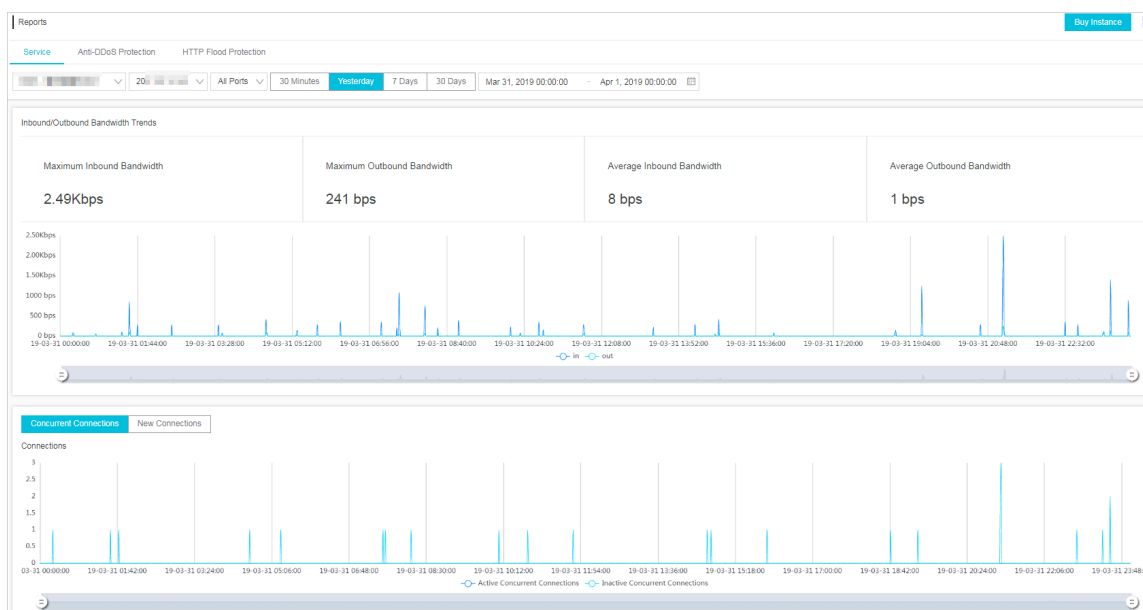
### Procedure

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.



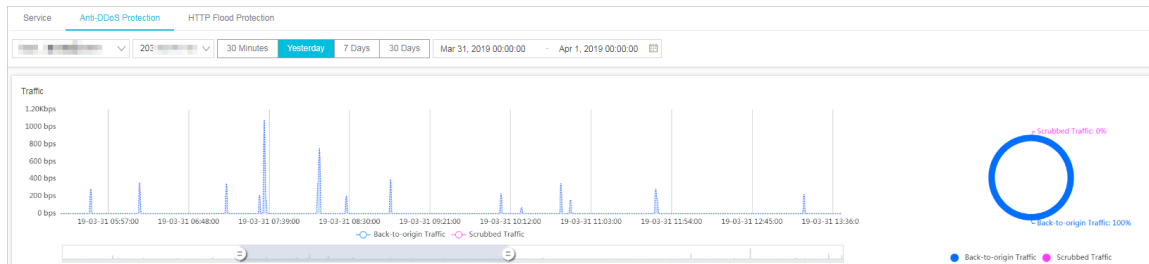
You can drag the slider to quickly change time ranges.

- 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.



#### 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:  $500 \times 60 \times 60 \times 24 \times 2 = 86,400,000$  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_address ,
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_access_log | select ip_to_provider ( if (
real_client_ip = '-', remote_address , real_client_ip )) as
provider , round ( sum ( request_length ) / 1024 . 0 / 1024 . 0 ,
3 ) as mb_in group by provider having ip_to_provider (
if ( real_client_ip = '-', remote_address , real_client_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
<code>__topic__</code>	The topic of the log entry. Default value: <code>ddos_access_log</code> . You cannot change this value.	-
<code>body_bytes_sent</code>	The size of the request body. Unit: byte.	2
<code>content_type</code>	The content type of the body of the request.	<code>application/x-www-form-urlencoded</code>
<code>host</code>	The domain of the origin server.	<code>api.abc.com</code>
<code>http_cookie</code>	The request cookie.	<code>k1=v1;k2=v2</code>
<code>http_referer</code>	The referer of the request. If this field is empty, - is displayed.	<code>http://xyz.com</code>
<code>http_user_agent</code>	The user agent of the request.	Dalvik/2.1.0 (Linux; U; Android 7.0; EDI-AL10 Build/HUAWEIEDISON-AL10)
<code>http_x_forwarded_for</code>	The originating IP addresses, including the IP addresses of the client and proxy servers.	-
<code>https</code>	Whether the request is an HTTPS request. <ul style="list-style-type: none"> <li>· true: The request is an HTTPS request.</li> <li>· false: The request is an HTTP request.</li> </ul>	true
<code>matched_host</code>	The domain or wildcard subdomain in the request that matches the domain of the origin server. If no match is found, - is displayed.	<code>*.zhihu.com</code>



Field	Description	Example
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 information, 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
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

Field	Description	Example
cc_blocks	<p>Whether the request is blocked by HTTP flood protection.</p> <ul style="list-style-type: none"> <li>1 : The request is blocked.</li> <li>Otherwise, the request is accepted.</li> </ul> <div>  <b>Note:</b>            In some situations, this field may not exist. The <code>last_result</code> field indicates whether the request is blocked by HTTP flood protection.         </div>	1
last_result	<p>Whether the request is blocked by HTTP flood protection.</p> <ul style="list-style-type: none"> <li>ok: The request is accepted.</li> <li>failed: The request fails verification or is blocked.</li> </ul> <div>  <b>Note:</b>            In some situations, this field may not exist. The <code>cc_blocks</code> field indicates whether the request is blocked by HTTP flood protection.         </div>	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

Field	Description	Example
ua_browser	<p>The browser that initiated the request.</p> <div>  <b>Note:</b>            In some situations, this field may not exist.         </div>	ie9
ua_browser_family	<p>The browser type.</p> <div>  <b>Note:</b>            In some situations, this field may not exist.         </div>	internet explorer
ua_browser_type	<p>Whether the browser is a Web browser, mobile browser, or other.</p> <div>  <b>Note:</b>            In some situations, this field may not exist.         </div>	web_browser
ua_browser_version	<p>The browser version.</p> <div>  <b>Note:</b>            In some situations, this field may not exist.         </div>	9.0
ua_device_type	<p>The type of the client device.</p> <div>  <b>Note:</b>            In some situations, this field may not exist.         </div>	computer
ua_os	<p>The operating system of the client device.</p> <div>  <b>Note:</b>            In some situations, this field may not exist.         </div>	windows_7

Field	Description	Example
ua_os_family	The family of the operating system.  <b>Note:</b> In some situations, this field may not exist.	windows
upstream_addr	The list of back-to-origin addresses. The format is <code>IP : Port</code> . Multiple addresses are separated by commas (,).	1.2.3.4:443
upstream_ip	The actual back-to-origin IP address.	1.2.3.4
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

## 4.8 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.

Add Multiple Rules

▼ View Example

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>
    </InstanceConfig>
  </DomainConfig>
</DomainList>

```



## 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
<code>&lt; Domain &gt; a . com &lt;/ Domain &gt;</code>	The domain to be configured. You can only enter one domain.
<code>&lt; ProtocolCo nfig &gt;&lt; ProtocolLi st &gt; http , https &lt;/ ProtocolLi st &gt;&lt;/ ProtocolCo nfig &gt;</code>	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.
<code>&lt; InstanceCo nfig &gt;&lt; InstanceLi st &gt; ddoscoo - cn - 4590lwcny0 01 &lt;/ InstanceLi st &gt;&lt;/ InstanceCo nfig &gt;</code>	<p>The Anti-DDoS Pro instance that is configured for the domain.</p> <div>  <b>Note:</b>  Each Anti-DDoS Pro instance has only one IP address. You can just enter the instance ID. Separate multiple instance IDs with commas (.). </div>
<code>&lt; RealServer Config &gt;&lt; ServerType &gt; 0 &lt;/ ServerType &gt;&lt; ServerList &gt; 1 . 2 . 3 . 4 &lt;/ ServerList &gt;&lt;/ RealServer Config &gt;</code>	<p>Information about the origin server .</p> <ul style="list-style-type: none"> <li><code>&lt; ServerType &gt; 0 &lt;/ ServerType &gt;</code> indicates that the IP address of the origin server is specified.</li> <li><code>&lt; ServerType &gt; 1 &lt;/ ServerType &gt;</code> indicates that the domain of the origin server is specified.</li> </ul> <p><code>&lt; ServerList &gt; 1 . 2 . 3 . 4 &lt;/ ServerList &gt;</code> indicates the address of the origin server. Separate multiple addresses with commas (.).</p> <div>  <b>Note:</b>  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. </div>

### Sample

```
< DomainList >
  < DomainConf ig >
    < Domain > a . com </ Domain >
```

```

< ProtocolConf >
< ProtocolList > http , https </ ProtocolList >
</ ProtocolConf >
< InstanceConf >
< InstanceList > ddoscoo - cn - 4590lwcny001 </ InstanceList >
</ InstanceConf >
< RealServerConf >
< ServerType > 0 </ ServerType >
< ServerList > 1 . 2 . 3 . 4 </ ServerList >
</ RealServerConf >
</ DomainConfig >
< DomainConfig >
< Domain > b . com </ Domain >
< ProtocolConf >
< ProtocolList > http , websocket , websockets </ ProtocolList >
</ ProtocolConf >
< InstanceConf >
< InstanceList > ddoscoo - cn - mp90oeort002 , ddoscoo - cn -
0pp0o5vz500d </ InstanceList >
</ InstanceConf >
< RealServerConf >
< ServerType > 1 </ ServerType >
< ServerList > q840a82zf2j23afs . gfvip05al . com </ ServerList >
</ RealServerConf >
</ DomainConfig >
</ DomainList >

```

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

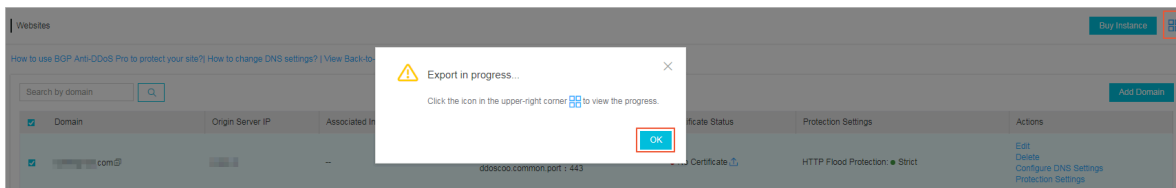
Import Rule				
⚠ Select the rules you want to import.				
<input type="checkbox"/>	Domain	Protocol	Origin Site	Line
<input type="checkbox"/>	a.com	http 80 https 443	1.2.3.4	ddoscoo-cn-4590lwcny001
<input type="checkbox"/>	b.com	http 80 websocket 80 websockets 443	q840a82zf2j23afs.gfvip05al.com	ddoscoo-cn-mp90oeort002 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.



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	<div>●</div> <div>Pending Export</div>	2019-04-01 11:33:09	Delete
Layer 7 Export	<div>●</div> <div>Exported</div>	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.


ddoscoo-cn-o4011hag0001

203

<input type="checkbox"/>	Forwarding Protocol 	Forwarding Port	Origin Se
<input type="checkbox"/>	TCP	555	555
<input type="checkbox"/>	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.

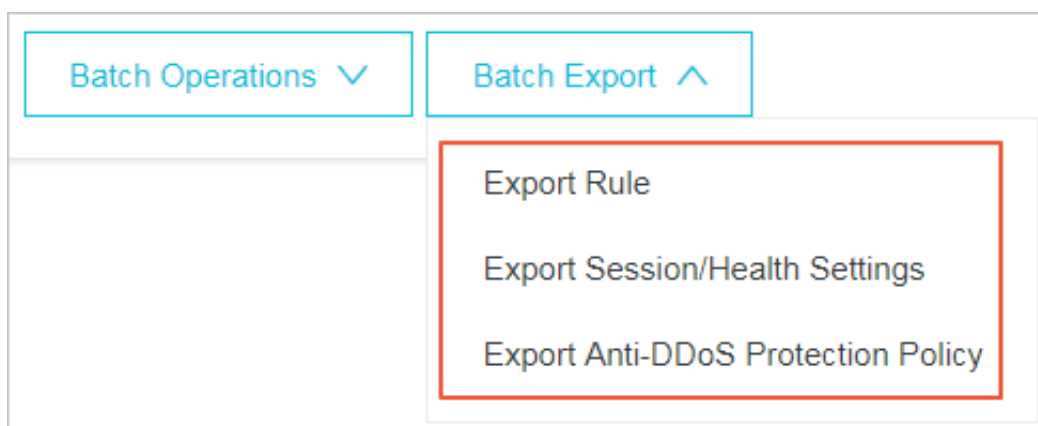
## Batch export forwarding rules

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.



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 security 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
<a href="#">DescribeInstances</a>	Query all instances.
<a href="#">DescribeInstanceDetails</a>	Query instance details.
<a href="#">DescribeInstanceSpecs</a>	Query instance configurations.
<a href="#">DescribeInstanceStatistics</a>	Query rules configured on instances.
<a href="#">DescribeElasticBandwidthSpec</a>	Query the burstable bandwidth of instances.
<a href="#">ModifyElasticBandWidth</a>	Modify the burstable bandwidth of instances.
<a href="#">ModifyInstanceRemark</a>	Modify the remarks on instances.

#### Layer 4 rules

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

<a href="#">DescribeLayer4RuleAttributes</a>	Query the attributes of layer 4 forwarding rules, including session persistence and anti-DDoS protection policies.
<a href="#">DescribeHealthCheckList</a>	Query layer 4 or layer 7 health check settings.
<a href="#">DescribeHealthCheckStatusList</a>	Query health check status.

### Layer 7 rules

API	Description
<a href="#">DescribeDomains</a>	Query layer 7 forwarding rules.
<a href="#">CreateLayer7Rule</a>	Create layer 7 forwarding rules.
<a href="#">ConfigLayer7Rule</a>	Edit layer 7 forwarding rules.
<a href="#">DeleteLayer7Rule</a>	Delete layer 7 forwarding rules.
<a href="#">ConfigLayer7Cert</a>	Configure certificates.
<a href="#">ConfigLayer7BlackWhiteList</a>	Configure the blacklist and whitelist.
<a href="#">DescribeLayer7InstanceRelations</a>	Query instances by domain.
<a href="#">DescribeCertList</a>	Query certificates.
<a href="#">EnableLayer7CC</a>	Enable layer 7 HTTP flood protection.
<a href="#">DisableLayer7CC</a>	Disable layer 7 HTTP flood protection.
<a href="#">EnableLayer7CCRule</a>	Enable layer 7 HTTP flood protection rules.
<a href="#">DisableLayer7CCRule</a>	Disable layer 7 HTTP flood protection rules.
<a href="#">AddLayer7CCRule</a>	Add layer 7 HTTP flood protection rules.
<a href="#">ConfigLayer7CCRule</a>	Edit layer 7 HTTP flood protection rules.
<a href="#">DescribeLayer7CCRules</a>	Query layer 7 HTTP flood protection rules.
<a href="#">DeleteLayer7CCRule</a>	Delete layer 7 HTTP flood protection rules.
<a href="#">ConfigLayer7CCTemplate</a>	Set the mode of layer 7 HTTP flood protection.
<a href="#">DescribeDomainAccessMode</a>	Query the modes that are used to set up instances.

<a href="#">ConfigDomainAccessMode</a>	Configure the modes that are used to set up instances.
<a href="#">DescribeBackSourceCidr</a>	Query back-to-origin CIDR blocks.

### Tasks

API	Description
<a href="#">ListAsyncTask</a>	Query asynchronous tasks.
<a href="#">CreateAsyncTask</a>	Create asynchronous tasks.
<a href="#">DeleteAsyncTask</a>	Delete asynchronous tasks.

### Logs

API	Description
<a href="#">DescribeOpEntities</a>	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 `DescribeInstances` 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=DescribeInstances
&Region=cn
&InstanceId=ddoscoo-cn-XXXX1
&Format=xml
&Version=2017-12-28
&Signature=xxxx%xxxx%3D
&SignatureMethod=HMAC-SHA1
&SignatureNonce=15215528852396
&SignatureVersion=1.0
&AccessKeyId=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/?SignatureVersion=1.0&SignatureMethod=HMAC-SHA1&Signature=CT9X0VtwR8_6fNWSnsc6v_8YG0juE_%3D&SignatureNonce=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=DescribeInstances&Region=cn&InstanceId=ddoscoo-cn-XXXX1&Timestamp=2016-02-23T12:46:24Z&Format=XML&AccessKeyId=testid&SignatureMethod=HMAC-SHA1&SignatureNonce=3ee8c1b8-83d3-44af-a94f-4e0ad82fd6_cf&Version=2017-12-28&SignatureVersion=1.0
```

Perform the following steps to calculate the signature:

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

```
GET %2F&AccessKeyId=testid&Action=DescribeInstances&Region=cn&InstanceId=ddoscoo-cn-XXXX1&Timestamp=2016-02-23T12:46:24Z&Format=XML&SignatureMethod=HMAC-SHA1&SignatureNonce=3ee8c1b8-83d3-44af-a94f-4e0ad82fd6_cf&SignatureVersion=1.0&Version=2017-12-28
```

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_8YG0juE=
```

3. Add the signature to the request URL:

```
https://ddoscoo.cn-hangzhou.aliyuncs.com/?Action=DescribeInstances&Region=cn&InstanceId=ddoscoo-cn-XXXX1&Timestamp=2016-02-23T12:46:24Z&Format=XML&AccessKeyId=testid&SignatureMethod=HMAC-SHA1&SignatureNonce=3ee8c1b8-83d3-44af-a94f-4e0ad82fd6_cf&Version=2017-12-28&SignatureVersion=1.0
```

```
& Signature = CT9X0VtwR8 6fNWSnsc6v 8YG0juE % 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): <ul style="list-style-type: none"> <li>JSON</li> <li>XML</li> </ul>
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=DescribeInstances
&Region=cn
&InstanceId=ddoscoo-cn-XXXX1
&Timestamp=2014-05-19T10:30:30.303Z
&Format=xml
&AccessKeyId=testid
&SignatureMethod=Hmac-SHA1
&SignatureNonce=NwDaxvLU6tFE0DVb
&Version=2017-12-28
&SignatureVersion=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
InstanceId s	String	No	<p>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 "].</p> <div> <b>Note:</b> If this parameter is specified, Ip or Remark is not needed.</div>
Ip	String	No	<p>The IP addresses of Anti-DDoS Pro instances. Exact match is supported.</p> <div> <b>Note:</b> If this parameter is specified, InstanceId s or Remark is not needed.</div>
Remark	String	No	<p>The remarks on the Anti-DDoS Pro instances. Fuzzy match is supported.</p> <div> <b>Note:</b> If this parameter is specified, InstanceId s or Ip is not needed.</div>
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 <a href="#">instance</a> .
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. <ul style="list-style-type: none"> <li>1 : Indicates that the subscription of the instance is valid.</li> <li>2 : Indicates that the subscription of the instance has expired.</li> <li>3 : Indicates that the instance has been released.</li> </ul>
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
InstanceId s	String	Yes	The array of IDs of Anti-DDoS Pro instances represented as a JSON string.

### Response parameters

Name	Type	Description
InstanceDe tails	InstanceDe tail	The list of instance details. For more information, see <a href="#">InstanceDetail</a> .
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 .
[] EipInfoLis t	EipInfo	The list of EIPs that are associated with the instance. For more information, see <a href="#">EipInfo</a> .

Table 6-3: EipInfo

Name	Type	Description
Eip	String	The elastic IP address.

Name	Type	Description
Status	String	<p>The status of the EIP. Valid values:</p> <ul style="list-style-type: none"> <li><code>normal</code> : Indicates that the instance is running correctly.</li> <li><code>cleaning</code> : Indicates that the instance is scrubbing traffic.</li> <li><code>blackhole</code> : Indicates that the instance is routing traffic to a black hole.</li> </ul>

## Examples

### Sample requests

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

### Sample responses

```
{
  "InstanceDetails": [
    {
      "InstanceId": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc",
      "Line": " coop - line - 001 ",
      "EipInfoList": [
        {
          "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
InstanceId s	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 <a href="#">InstanceSpec</a> .
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

```
{
  " InstanceSpecs ": [
    {
      " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx bc ",
      " BaseBandwidth ": 20 ,
      " ElasticBandwidth ": 10 ,
      " PortLimit ": 10 ,
      " DomainLimit ": 20 ,
      " BandwidthMbps ": 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
InstanceId s	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 <a href="#">InstanceStatistic</a> .
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

```
{
  "InstanceStatistics": [
    {
      "InstanceId": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx  bc",
      "PortUsage": 20,
      "DomainUsage": 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

```
{  
  " ElasticBandwidthSpec ": [ 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 ",
  " ElasticBandwidth ": 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 <a href="#">Listener</a> .

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 \",\"FrontendPort\":80,\"BackendPort\":5,\"RealServers\":[\"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 <a href="#">Listener</a> .

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 \", \" FrontendPort \": 80 , \" BackendPort \": 5 , \" RealServers \": [\" 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 <a href="#">Listener</a> .



**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\", \"FrontendPort\": 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 <a href="#">TcpConfig</a> and <a href="#">UdpConfig</a> .

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 <a href="#">Sla</a> .
Slimit	Slimit	Yes	The connection limit on source IPs. For more information, see <a href="#">Slimit</a> .
PayloadLen	PayloadLen	Yes	The limit on the payload size of each packet. For more information, see <a href="#">PayloadLen</a> .

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 <a href="#">Sla</a> .
Slimit	Slimit	Yes	The connection limit on source IPs. For more information, see <a href="#">Slimit</a> .
PayloadLen	PayloadLen	Yes	The limit on the payload size of each packet. For more information, see <a href="#">PayloadLen</a> .

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: <ul style="list-style-type: none"> <li>0 : Disabled</li> <li>1 (Default): Enabled</li> </ul>
MaxconnEnable	Integer	No	Indicates whether Maxconnection is enabled. Valid values: <ul style="list-style-type: none"> <li>0 : Disabled</li> <li>1 (Default): Enabled</li> </ul>

Table 6-12: Slimit

Name	Type	Required	Description
Cps	Integer	Yes	The maximum number of new connections 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: <ul style="list-style-type: none"> <li>0 : Disabled</li> <li>1 (Default): Enabled</li> </ul>
MaxconnEnable	Integer	No	Indicates whether Maxconnection is enabled. Valid values: <ul style="list-style-type: none"> <li>0 : Disabled</li> <li>1 (Default): Enabled</li> </ul>

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 ",
  " ForwardProtocol ": " tcp ",
  " FrontendPort ": 80 ,
  " Config ": "{ \" PersistenceTimeout \": 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: <ul style="list-style-type: none"> <li>TCP (Layer 4)</li> <li>UDP (Layer 4)</li> <li>HTTP (Layer 7)</li> </ul>
FrontendPort	Integer	Yes	The port for front-end connections.
HealthCheck	String	Yes	The HealthCheck objects represented as a JSON string. For more information, see <a href="#">HealthCheck</a> .

Table 6-14: HealthCheck

Name	Type	Required	Description
Type	String	Yes	The listener protocol. Valid values: <ul style="list-style-type: none"> <li>TCP : Layer 4</li> <li>HTTP : Layer 7</li> </ul>
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.
ForwardPro tocol	String	No	The forwarding protocol. Valid value: TCP .
FrontendPo rt	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.  <div>  <b>Note:</b>            If not specified, all result records are returned.         </div>
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 <a href="#">Listener</a> .
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 <a href="#">Listener</a> .

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.
FrontendPo rt	Integer	Yes	The port for front-end (client to Anti-DDoS Pro) connections. Valid values: 0-65535.
BackendPor t	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 <a href="#">Listener</a> .
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 <a href="#">TcpConfig</a> .

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 <a href="#">Sla</a> .



Name	Type	Description
Slimit	Slimit	The connection limit on source IPs. For more information, see <a href="#">Slimit</a> .
PayloadLen	PayloadLen	The limit on the payload size of each packet. For more information, see <a href="#">PayloadLen</a> .

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: <ul style="list-style-type: none"> <li>0 : Disabled</li> <li>1 (Default): Enabled</li> </ul>
MaxconnEnable	Integer	Indicates whether Maxconnection is enabled. Valid values: <ul style="list-style-type: none"> <li>0 : Disabled</li> <li>1 (Default): Enabled</li> </ul>

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: <ul style="list-style-type: none"> <li>0 : Disabled</li> <li>1 (Default): Enabled</li> </ul>
MaxconnEnable	Integer	Indicates whether Maxconnection is enabled. Valid values: <ul style="list-style-type: none"> <li>0 : Disabled</li> <li>1 (Default): Enabled</li> </ul>

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 <a href="#">Listener</a> .

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 <a href="#">HealthCheck</a> .
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: <ul style="list-style-type: none"> <li>TCP : Layer 4</li> <li>HTTP : Layer 7</li> </ul>
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 ,
  " HealthCheck ": [
    {
      " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx bc ",
      " Protocol ": " tcp ",
      " FrontendPort ": 80 ,
      " HealthCheck ": {
        " 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 <a href="#">Listener</a> .

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 <a href="#">HealthCheckStatus</a> .
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 <a href="#">RealServerStatus</a> .
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 \", \" FrontendPort \": 80
}]"
}
```

### Sample responses

```
{
  " HealthCheckStatusList ": [
    {
      " InstanceId ": " 0bcf28g5 - d57c - 11e7 - 9bs0 - d89d6717dx bc ",
      " Protocol ": " tcp ",
      " FrontendPort ": 80 ,
      " Status ": " normal ",
      " RealServerStatusList ": [
        {
          " 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: <ul style="list-style-type: none"><li>fuzzy (Default): Fuzzy query.</li><li>exact : Exact query.</li></ul>
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 <a href="#">Domain</a> .

Table 6-27: Domain

Name	Type	Description
Domain	String	The domain name.
ProxyTypes	[] String	The array of forwarding protocols. Valid values: <ul style="list-style-type: none"><li>http</li><li>https</li><li>websocket</li><li>websockets</li></ul>

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.
RealServers	[] Layer7RealServer	The array of origin servers. For more information, see <a href="#">Layer7RealServer</a> .

Table 6-28: Layer7RealServer

Name	Type	Description
RealServer	String	The address of the origin server.
RsType	Integer	The address type. Valid values: <ul style="list-style-type: none"> <li>0 : IP address.</li> <li>1 : Domain name.</li> </ul>

## Examples

### Sample requests

```
{
  " Domain ": " www . alibaba . com ",
  " QueryDomainPattern ": " 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: <ul style="list-style-type: none"> <li>0 : IP address.</li> <li>1 : Domain name.</li> </ul>


Name	Type	Required	Description
InstanceId s . N	String	No	<p>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, ..</p> <div>  <b>Note:</b>            If this parameter is not specified, the domain name is not associated with any Anti-DDoS Pro instance.         </div>
Rules	String	Yes	The array of layer 7 rules represented as a JSON string. For more information, see <a href="#">Layer7Rule</a> .

Table 6-29: Layer7Rule

Name	Type	Description
ProxyRules	[] ProxyRule	The array of rule objects. For more information, see <a href="#">ProxyRule</a> .
ProxyType	String	<p>The forwarding protocol. Valid values:</p> <ul style="list-style-type: none"> <li>• http</li> <li>• https</li> <li>• websocket</li> <li>• websockets</li> </ul>

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: <ul style="list-style-type: none"> <li>0 : IP address.</li> <li>1 : Domain name.</li> </ul>
InstanceId s . 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, ... <div>  <b>Note:</b>            If this parameter is not specified, the domain name is not associated with any Anti-DDoS Pro instance.         </div>

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.  <b>Note:</b> If this parameter is specified, CertName , Cert , or Key is not needed.
CertName	String	No	The name of the certificate.  <b>Note:</b> 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	<p>The public key of the certificate.</p> <div>  <b>Note:</b>            If this parameter is specified, you must also specify CertName and Key .If CertName , Cert ,and Key are specified, CertId is not needed.         </div>
Key	String	No	<p>The private key of the certificate.</p> <div>  <b>Note:</b>            If this parameter is specified, you must also specify CertName and Cert . If CertName , Cert ,and Key are specified, CertId is not needed.         </div>

#### 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 DescribableLayer7InstanceRelations

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 <a href="#">Layer7InstanceRelation</a> .

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 <a href="#">InstanceDetail</a> .

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

```
{
  "Layer7InstanceRelations ":[
    {
      "Domain ":" 1 . aliyun . com ",
      "InstanceDetails ":[
        {
          "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 DescribeCertList

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 <a href="#">CertItem</a> .

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. <ul style="list-style-type: none"><li>close : Block the request.</li><li>captcha : Enable captcha verification.</li></ul>
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. <ul style="list-style-type: none"><li>match : Exact match. Requests are counted only when the request URI exactly matches the URI that is protected under the rule.</li><li>prefix : Prefix match. Requests are counted when the request URI contains the URI that is protected under the rule.</li></ul>
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. <ul style="list-style-type: none"><li>close : Block the request.</li><li>captcha : Enable captcha verification.</li></ul>
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 <code>Count</code> parameter. The rule is triggered when the number of requests sent by an IP address reaches the <code>Count</code> limit during the <code>Interval</code> period.
Mode	String	Yes	The URI matching algorithm. <ul style="list-style-type: none"> <li><code>match</code> : Exact match. Requests are counted only when the request URI exactly matches the URI that is protected under the rule.</li> <li><code>prefix</code> : Prefix match. Requests are counted when the request URI contains the URI that is protected under the rule.</li> </ul>
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.  <div>  <b>Note:</b>            If not specified, all result records are returned.         </div>
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 <a href="#">Layer7CCRule</a> .
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. <ul style="list-style-type: none"> <li>close : Block the request.</li> <li>captcha : Enable captcha verification.</li> </ul>
Count	Integer	The number of requests. This parameter is used together with the <code>Interval</code> parameter. The rule is triggered when the number of requests sent by an IP address reaches the <code>Count</code> limit during the <code>Interval</code> 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. <ul style="list-style-type: none"> <li>match : Exact match. Requests are counted only when the request URI exactly matches the URI that is protected under the rule.</li> <li>prefix : Prefix match. Requests are counted when the request URI contains the URI that is protected under the rule.</li> </ul>
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 ,
  " Layer7CCRules ": [
    {
      " 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	<p>The mode of HTTP flood protection that you want to use. Valid values:</p> <ul style="list-style-type: none"> <li>default : Normal</li> <li>gf_under_attack : Emergency</li> <li>gf_sos_verify : Strict</li> <li>gf_sos_enhance : Super Strict</li> </ul>

#### 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 <a href="#">DomainModeList</a> .

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: <ul style="list-style-type: none"> <li>0 : A value of 0 indicates that A records are used.</li> <li>1 : A value of 1 indicates that the Anti-DDoS Pro mode is used.</li> <li>2 : A value of 2 indicates that the back-to-origin mode is used.</li> </ul>

## 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: <ul style="list-style-type: none"><li>0 : A value of 0 indicates that A records are used.</li><li>1 : A value of 1 indicates that the Anti-DDoS Pro mode is used.</li><li>2 : A value of 2 indicates that the back-to-origin mode is used.</li></ul>

### 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	<p>The type of the task that you want to query. Valid values:</p> <ul style="list-style-type: none"><li>• 1 : A value of 1 indicates that the task is to export multiple layer 4 forwarding rules.</li><li>• 2 : A value of 2 indicates that the task is to export multiple layer 7 forwarding rules.</li><li>• 3 : A value of 3 indicates that the task is to export session and health check settings.</li><li>• 4 : A value of 4 indicates that the task is to export anti-DDoS protection policies.</li></ul> <div> <b>Note:</b> If this parameter is not specified, all types of tasks are returned.</div>

Name	Type	Required	Description
TaskStatus	Integer	No	<p>The status of the task that you want to query. Valid values:</p> <ul style="list-style-type: none"> <li>0 : A value of 0 indicates that the task is initializing.</li> <li>1 : A value of 1 indicates that the task is in progress.</li> <li>2 : A value of 2 indicates that the task is successful.</li> <li>3 : A value of 3 indicates that the task has failed.</li> </ul> <div>  <b>Note:</b> If this parameter is not specified, tasks of all statuses are returned. </div>
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 <a href="#">AsyncTask</a> .

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: <ul style="list-style-type: none"> <li>1 : A value of 1 indicates that the task is to export multiple layer 4 forwarding rules.</li> <li>2 : A value of 2 indicates that the task is to export multiple layer 7 forwarding rules.</li> <li>3 : A value of 3 indicates that the task is to export session and health check settings.</li> <li>4 : A value of 4 indicates that the task is to export anti-DDoS protection policies.</li> </ul>
TaskStatus	Integer	The status of the task. Valid values: <ul style="list-style-type: none"> <li>0 : A value of 0 indicates that the task is initializing.</li> <li>1 : A value of 1 indicates that the task is in progress.</li> <li>2 : A value of 2 indicates that the task is successful.</li> <li>3 : A value of 3 indicates that the task has failed.</li> </ul>
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 <a href="#">TaskParam</a> .
TaskResult	TaskResult	The task execution result represented as a JSONObject string. For more information, see <a href="#">TaskResult</a> .

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	<p>The type of the task. Valid values:</p> <ul style="list-style-type: none"><li>• 1 : A value of 1 indicates that the task is to export multiple layer 4 forwarding rules.</li><li>• 2 : A value of 2 indicates that the task is to export multiple layer 7 forwarding rules.</li><li>• 3 : A value of 3 indicates that the task is to export session and health check settings.</li><li>• 4 : A value of 4 indicates that the task is to export anti-DDoS protection policies.</li></ul>
TaskParams	String	Yes	<p>The task parameter represented as a JSON string. The parameters vary depending on the task type.</p> <ul style="list-style-type: none"><li>• 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 " }.</li><li>• When TaskType is set to 2 , specify an empty string. For example, {}.</li><li>• 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 " }.</li><li>• When TaskType is set to 4 , specify the ID of the Anti-DDoS Pro instance where the rules to be exported come from. For example, {" instanceId ": " ddoscoo - cn - XXXXX " }.</li></ul>

**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 <a href="#">OpEntity</a> .

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 <a href="#">OpDesc</a> .

Table 6-40: OpDesc

Parameter	Type	Description
oldValue	EntityValue	The old value. For more information, see <a href="#">EntityValue</a> .
newValue	EntityValue	The new value. For more information, see <a href="#">EntityValue</a> .

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 ,
      " entityObject ": " 1 . 1 . 1 . 1 " ,
      " opAction ": 2 ,
      " opDesc ": {
        " oldValue ": {
          " elasticBandwidth ": 10
        },
        " newValue ": {
          " elasticBandwidth ": 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.