Alibaba Cloud Cloud Firewall

Security Policy

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Generic conventions

Table -1: Style conventions

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

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

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1 Overview of access control policies

You can configure access control policies in Cloud Firewall to restrict the inbound and outbound traffic of your servers. This helps reduce the risk of intrusions.

Limits on the number of access control policies in each Cloud Firewall edition

The maximum number of access control policies varies with the Cloud Firewall edition.

- In Pro Edition, you can configure up to 1,000 outbound policies and 1,000 inbound policies.
- In Enterprise Edition, you can configure up to 2,000 outbound policies and 2,000 inbound policies.
- In Flagship Edition, you can configure up to 5,000 outbound policies and 5,000 inbound policies.

Note:

Cloud Firewall allows you to control the traffic bound to specified domains. After you configure an access control policy for a domain, all traffic bound to this domain is controlled. The policy actions include Allow, Deny, and Monitor.

Limits on the number of internal firewall policies

By default, you can create up to 100 policy groups and 100 policies between your servers. The policies include those created in the ECS security group module and synchronized to Cloud Firewall and those created on the Internal Firewall page in Cloud Firewall.



Note:

If you want to create more policies than allowed, we recommend that you delete unnecessary policies or submit a ticket for technical support.

2 Access control over the Internet firewall

Cloud Firewall supports access control over the Internet firewall. You can configure policies to control the traffic between the Internet and your servers.

Prerequisites

To make sure that the Internal firewall policies take effect on an instance, you must enable Internet firewall for this instance.

Cloud Firewall	Firewalls						(6	Flagship Edition Assets Protected for 163 Days, Service Expi	re in 1482 Days Upgrade Renew
Overview	Internet Firewall	VPC Firewall							Show Guide
Firewall Settings 2	⇔ Mechanism			— Enable	⑦ FAQs		New	🔆 Overall Status	×
Security Policies Access Control	•	Internet Firewall			Functions of Internet Fi What's the influence of Why certain assets are i	rewalls enabling/disabling Interr missed in Internet Firewal	net Firewalls? Is?	Firewall Disabled for 2 IP Addresse Enable Firewall for All	s
Intrusion Prevention	Internet		Internal Firewall / Secu	rity Group					
▶ Logs	Public IP		Batch	Region			View Det	ails Asset Type	View Details
Business Visualization Tools	2 Unprotected	84 Protected	571 Remaining Quota	1 Not All IPs Protec	ted	All IPs Protected	991 Remaining Qu	ota 1 Not All IPs Protected	6 All IPs Protected
	Asset Type All	V Region All	✓ Firewall Status All	V Instance ID/IP		Sea	rch		Update Assets
	IP IP	Instance ID			Asset Type	Region	Bound Asset		Firewall Status Actions
		1.000			ECS Public IP	China ((j)	And the property of the local sector of the lo		Enabled Disable Firewall

Context

Internet firewall allows you to configure both outbound and inbound access policies.

Outbound traffic control

- 1. Log on to the Cloud Firewall console.
- 2. In the left pane, choose Security Policies > Access Control > Internet Firewall > Outbound Policies.

Cloud Firewall	Access Control	
Overview	Internal Firewall VPC Firewall VPC Firewall Show Guide 💽	Address Books
Firewall Settings 2 Traffic Analysis Security Policies Access Control		×
 Logs Business Visualization 	Outbound Policies Inbound Policies Cente All V Searce Search here	C

3. In the upper-left corner of the Outbound Policies tab page, click Create. The Create Outbound Policy dialog box is displayed.

Acce	ss Control			
Inte	ernet Firewall	Internal Firewall VPC	Fi1	
	Mechanism		Create Outb	ound Policy ×
			Source Type *	IP Address Book
	● ←		Source *	Enter an IP or a CIDR block. / 32
Ir	nternet	Interpet Firewall		The source must be a public IP address. Enter a CIDR block, for example, 200.1.1.0/24.
	Outbound Policies	Inbound Policies	Destination Type	IP Address Book Domain Name Region
		-	*	
Cre	ate All	All V Source	Destination *	Enter an IP or a CIDR block. / 32
Priority	Source	Dest		The destination must be a public IP address. Enter a CIDR block, for example, 200.1.1.0/24.
1		··· •	Protocol *	Please select V
2	@	•	Port Type *	Forts Address Book
3		E	Ports *	Enler a port range, such as 22/22.
4	P			The port number can be from 0 to 65535, for example, 100/200. If you do not want to limit the port, enter 0/0.
		· · · · ·	Application *	Please select ∨
5	P	P		Submit Cancel
6	P	P		

- 4. Create an outbound access control policy.
 - a. In the first outbound policy, allow traffic from trusted source IP addresses.

Steps	Parameter name	Parameter configuration
1	Source Type	 Select IP or Address Book . IP: You can specify one CIDR block. Address Book: You can select from the IP address books that you have configured. An IP address book is a set of CIDR blocks. This allows you to manage multiple IP addresses in policy configuration.

A. Configure the rule parameters according to the steps in the table.

Steps	Parameter name	Parameter configuration			
2	Source	The source address of the traffic. In this policy, set Source to internal IP addresses that can access the Internet. • If the source type is IP, you must set the source			
		 to a CIDR block. For example, 1.1.1.1/32. If the source type is Address Book, click Select Address Book, and select an IP address book as the source. 			
3	Destination Type	You can select IP , Address Book , Domain Name , or Region .			
		Note: If you select Region , you can select a destination from the seven continents and all regions in China, including 23 provinces, four municipalities, five autonomous regions, and two special administrative regions.			
4	Destination	The destination of the traffic. In this policy, set Destination to a public IP address that can be accessed by an internal IP address.			
5	Protocol	The protocol of the traffic. If you are not sure which protocol is used, select ANY .			
6	Port Type	 Select Ports or Address Book . Ports: You can specify a port number or a port range. Address Book: You can select from the port address books that you have configured. A port address book contains multiple ports. 			
7	Ports	The ports to which you want to apply this policy. If Port Type is Ports, specify a port number. You can also click Select Address Book to select a port address book that you have configured.			

Steps	Parameter name	Parameter configuration
8	Application	The application where the traffic is bound to.
		Note: If Destination Type is set to Domain Name , you can set Application to HTTP , HTTPS , SMTP , or SMTPS .
9	Policy Action	Indicates whether Internet firewall allows or denies the traffic. Select Allow for this policy.
10	Description	Enter a description of the policy so that you can quickly distinguish the purpose of each policy when you view it later.
11	Priority	Select the priority of this policy, the default is the Lowest .

B. Click Submit.



The latest policy is displayed in the last row on the last page of the policy list.

b. In the second outbound policy, deny the traffic from all internal IP addresses to the Internet.

Set Source to 0.0.0.0/0 and Policy Action to Deny to prevent all unauthorized access activities. Configure the other parameters by referring to the preceding parameter descriptions.

c. Make sure that the priority of the allow policy on the trusted IP addresses is higher than that of the deny policy.

Note:

Cloud Firewall assigns priorities to access control policies based on the policy creation time. A new policy has a lower priority than all existing policies. For more information about the policy priority, see #unique_5.

For more information about policy configuration parameters, seeParameters of an access control policy.

Inbound traffic control

- 1. Log on to the Cloud Firewall console.
- 2. In the left pane, choose Security Policies > Access Control > Internet Firewall > Inbound Policies.

Cloud Firewall	Access	s Control									
Overview	Inter	net Firewall Internal Firewall	VPC Firewall							Show Guide Addre	iss Books
Firewall Settings 86	4	Mechanism		() FAQs			More	🌣 Overall :	Status		×
Traffic Analysis			Internal Fire	Wall Best practice	for access control pol	cy configuration		A Firewall I	Disabled for 86 IP Add	resses	
▼ Security Policies	6		/ July a	How to set p	riority for access contr	ol policy?		effect only o	ontrol feature of a per in the traffic controlled	by the firewall.	
Access Control	Int	ernet Internet Firewa	Internal Fire	wall	tween Cloud Firewall	and Security groups		⑦ Go t	to Firewall Settings		
Intrusion Prevention			/ Security G	roup							
► Logs	0	utbound Policies Inbound Policie	s								
Business Visualization	Creat	e All V All V	Source V Search here								G
▶ Tools	Priority	Source	Destination	Protocol/Application/Port		Policy Action	Description		Hits	Actions	
	1	8	1000	TCP/RDP/9-3-50port		i Allow			0	Modify Delete Insert Move	
	2	©	A	TCP/RDP/0/0		i Allow	-		70 🖏	Modify Delete Insert Move	

3. In the upper-left corner of the Inbound Policies tab page, click Create. The Create Inbound Policy dialog box is displayed.

Acces	s Control				
Inter	net Firewall Inter	mal Firewall	VPC =''		
4	Mechanism		Create Inbou	und Policy	× 🔒
(ernet Int	ernet Eirewall	Destination *	Enter an IP or a CIDR block. / 32 The destination must be a public IP address. Enter a CIDR block, for example, 200.1.1.0/24.	
	enner int		Protocol *	Please select V	
0	utbound Policies	Inbound Policies	Port Type *	Ports Address Book	
Creat	e All V	All 🗸 Sou	rce Ports *	Enter a port range, such as 22/22.	
Priority	Source	1	Dest	The port number can be from 0 to 65535, for example, 100/200. If you do not want to limit the port, enter 0/0.	
1			P Application *	Please select V	
2	©	- International Association	Policy Action *	Please select V	
3	2	Ð	Description *		
4			Priority	Lowest Highest	
5	@		P	Submit Cancel	
6	©		=		

4. In the first inbound policy, allow traffic from trusted external IP addresses.

Set Source to a trusted CIDR block or an IP Address Book that you have configured. Set Policy Action to Allow. For more information about configuring other parameters, see the parameter descriptions in Outbound traffic control.



If you set Source Type to Address Book for an inbound policy, you can set Source to an IP address book or a cloud address book. If you set Destination Type to Address Book, you can only set Destination to an IP address book.

5. In the second inbound policy, deny the traffic from all the other external IP addresses to the internal network.

Set Source to 0.0.0.0/0 and Policy Action to Deny to prevent all unauthorized access activities.

6. Make sure that the priority of the allow policy on the trusted IP addresses is higher than that of the deny policy.

Check whether the policies have taken effect

A newly created policy takes effect immediately by default. However, if the policy parameters are invalid or the Internet firewall is disabled, the policy may not take effect.

In the policy list, click the number in the Hits column of a policy. The Traffic Logs page is displayed. If the name of the policy is displayed in the Policy Name column on the Traffic Logs page, this policy has taken effect.

Note:

After you delete a policy, the allow or deny policy that you have configured becomes invalid. Exercise caution.

Parameters of	an acces	s control	policy
---------------	----------	-----------	--------

Parameter	Description
Source type	The type of the source address. You can select IP or Address Book .
	 If you select IP, enter a CIDR block in the Source field. If you select Address Book, set Source to an existing address book.
	You can add multiple IP addresses to an address book to simplify policy configuration.

Parameter	Description							
Source	The source IP address or CIDR block of the traffic.							
	Note: You can specify only one CIDR block, for example, 1.1.1.1/32.							
	If you set Source Type to Address Book, select an exiting address book as the source.							
	Note:							
	• In an outbound policy, the source address book can be an IP address book only, and the destination address book can be an							
	IP address book, a domain address book, or a cloud address book.							
	 In an inbound policy, the source address book can be an IP address book or a cloud address book, and the destination address book can be an IP address book only. 							
Destination type	 IP: Set the destination to an IP address. Address Book: Set the destination to an address book. Domain Name: Set the destination to a domain name. You can specify a wildcard domain, for example, *. a . com . 							
	 Note: Only in an outbound policy can you set the destination type to IP, domain name, or region. If an HTTP header does not contain the host field or an HTTPS request does not contain Server Name Indication (SNI), the policy action is set to Allow by default. 							

Parameter	Description
Destination	Set the destination to a CIDR block.
	If you set the destination type to domain name, set the destination to a domain or a wildcard domain.
	 Note: In an outbound policy, the source address book can be an IP address book only, and the destination address book can be an IP address book, a domain address book, or a cloud address book. In an inbound policy, the source address book can be an IP
	address book or a cloud address book, and the destination address book can be an IP address book only.
Protocol	 ANY: Indicates any protocol. TCP UDP ICMP
Destination	You can specify a port range. 0/0 indicates any port.
ports	Note: If you set the protocol to ICMP, the destination port configuration is not required. If you set the protocol to ANY, the destination port configuration does not take effect on ICMP traffic.
Application	You can set the application to ANY, HTTP, HTTPS, Mamcache, MongoDB, MQTT, MySQL, RDP, Redis, SMTP, SMTPS, SSH, or VNC.
	If Protocol is set to TCP, multiple applications are available. Otherwise, you can set the application to ANY only.
	Note: The identification application relies on the application message characteristics (the protocol identification is not based on the port); when the application identification fails, the session traffic is Allow .

Parameter	Description
Policy action	 Indicates whether Internet firewall allows or denies the traffic. Allow: The traffic is allowed. Deny: The traffic is denied without any notification. Monitor: The traffic is allowed. After monitoring the traffic for a period of time, you can change the policy action to Allow or Deny.
Description	A description or note about this policy. Enter a description of the policy so that you can distinguish the policies later.
Priority	Set the priority of the access control policy. The default priority is the Lowest .

3 Access control over the internal firewall between ECS instances

Cloud Firewall supports access control over the internal firewall. You can configure access control policies to restrict unauthorized access between ECS instances.

The internal firewall integrates the features of the ECS security group module. The access control policies that you configure on the Internal Firewall page in Cloud Firewall are automatically synchronized to the security group module of ECS.

Note:

To view the policy groups that you have configured on the Internal Firewall page, specify Source as Custom , and click Search.

Benefits of internal firewall

- You can publish multiple policies at the same time.
- · You can create policy groups based on templates.

The templates are as follows:

- default accept login : Allow all inbound traffic that passes through port 22 and port 3389 by default.
- default drop all : Deny all traffic in the policy group by default.
- default accept all : Allow all traffic in the policy group by default.
- · Security groups can be automatically created based on application groups.

Note:

By default, you can create up to 100 policy groups and 100 policies between ECS instances. The policies include those created in the ECS security group module and synchronized to Cloud Firewall and those created on the Internal Firewall page in Cloud Firewall. If you want to create more policies than allowed, we recommend that you delete unnecessary policies or submit a ticket for technical support.

Procedure

Create a policy group, and then configure inbound or outbound access control policies.

- 1. Log on to the Cloud Firewall console.
- 2. In the left-side navigation pane, choose Security Policies > Access Control > Internal Firewall.

Cloud Firewall	Access Control								
Overview	Internet Firewall Internal Firewa	all VPC Firewall					Sh	ow Guide 🚺	C Create Policy Group
Firewall Settings Traffic Analysis Security Policies Access Control Intrusion Prevention	Hechanism	internal / Securit irewall	ss control policy configu r access control policy? loud Firewall and Securi	iration by groups	More	P Addresses of a perimeter firewa trolled by the firewa	X II takes al.		
▶ Logs	All V All Sources V	All Templates V All Status V Name	✓ E	nter a keyword.		Search			
Business Visualization	Policy Group Name	VPC	Source	Template	Related Instance	Created At	Description	Status	Actions
. 1000	100000000000000	The states of the state of the	Security Group Synchronizati on		1.	Jan 21, 2019, 03:26:18	1000 000000000	To be Published	Configure Policy Publish Modify Delete
	1,11111,11111,11111,1111		Security Group Synchronizati on		1.	Jan 21, 2019, 03:06:08		Publish Failed	Configure Policy Publish Modify Delete
	-		Security Group Synchronizati		30	Jan 21, 2019, 02:51:27	Tenter contractory propriet	Publish Failed	Configure Policy Publish Modify Delete

3. In the upper-right corner, click Create Policy Group. In the Create Policy Group dialog box, configure the policy group.

Access Control		
Internet Firewall Internal Firewall VPC Firewall		Show Guide C Create Policy Group
Hechanism	Internal Firewall Create Policy Group	More Overall Status X A Second To Statukes for 0 IP Addresses X The second condition of a perimpter forwall takes The second condition of the traffic controlled by the firewall. Image: Control betwork Traffic Image: Control betwork Traffic
All V All Sources V All Templates V All Status	VPC+ Chine v Instance ID: vh. view view view view view view view view	
Policy Group Name VPC	Description * Enter a description that contains 2 to 256 characters.	Description Status Actions
and the first of the second se	Template:+ default-accept-all	To be Configure Policy Publish Modify Published Delete
sparskystander. In hereiter warden	Authorization Protocol Type Port Range Policy Type 0.0.0.00 ANY -11-1 Allow	Publish Failed Configure Policy Publish Modify Delete
approximation and the segment services in	Submit	Publish Failed Configure Policy Publish Modify Delete

The configuration items of a policy group are described as follows:

Item	Description	Configuration note
Name	The name of the policy group. The name must be from 1 to 128 characters in length.	Enter a policy group name.
VPC	The VPC network to which the policy group is applied.	In the VPC drop-down list, select a VPC network . Note: You can select only one VPC network.

Item	Description	Configuration note
Instance ID	The IDs of instances in the selected VPC	In the Instance ID drop-down list, select instance IDs.
	network.	Note: You can select multiple instance IDs.
Description	A description of the policy group. The description must be from 2 to 256 characters in length.	Enter a description of the policy group.
Template	The policy group template.	In the Template drop-down list, select a template. The templates are as follows:
		 default - accept - login : Allow all inbound traffic that passes through port 22 and port 3389 by default. default - drop - all : Deny all traffic in the policy group by default. default - accept - all : Allow all traffic in the policy group by default.

4. Click Submit.

You can locate the new policy group on the Internal Firewall page, and configure, publish, modify, or delete this policy group.

Note:

You can modify or delete a policy group. When you modify a policy group, you can only modify the related instances and the policy group description. After you delete a policy group, the access control policies between ECS instances in this policy group are automatically deleted and become invalid.

5. Click Configure Policy in the Actions column to create access control policies.



You can create multiple policies in a policy group. By default, you can create up to 100 policy groups and 100 policies. If you want to create more policies than allowed, we recommend that you delete unnecessary policies or submit a ticket for technical support.

Cloud Firewall	Access Control								
Overview	Internet Firewall Internal Firewa	all VPC Firewall					Sho	w Guide 🔵	C [#] Create Policy Group
Firewall Settings Traffic Analysis Cecurity Policies Access Control Intrusion Prevention	Process costs of poly of a cost of seture of a poly of the cost of the co							X II takes al.	
► Logs	All V All Sources V	All Templates V All Status V Name	√ E	nter a keyword.		Search			
Tools	Policy Group Name	VPC	Source	Template	Related Instance	Created At	Description	Status	Actions
	1000000000000	The state of the state of the	Security Group Synchronizati on		10	Jan 21, 2019, 03:26:18		To be Published	Configure Policy Publish Modify Delete
	10000		Security Group Synchronizati on		10	Jan 21, 2019, 03:06:08		Publish Failed	Configure Policy Publish Modify Delete
	-		Security Group Synchronizati on		30	Jan 21, 2019, 02:51:27	Spring contraction of program	Publish Failed	Configure Policy Publish Modify Delete

6. On the Policies page, click the Inbound or Outbound tab, and click Create Policy in the upper-right corner.

Cloud Firewall	Back Policies Policy Group 19									
Overview	Inbo	und Outbound								C Create Policy
Firewall Settings	Priority	Source Type	Source	Protocol Type	Port Range	Policy Type	Created At	Description	Status	Actions
Traffic Analysis	1	CIDR Block		ICMP	-1/-1	Allow	Jul 31, 2019, 10:52:23		To be Published (Add)	Modify Delete
Access Control	2	CIDR Block	1.111	TCP	22/22	Allow	Apr 24, 2019, 10:33:09	1910.000	Published	Modify Delete
Intrusion Prevention	4	CIDR Block		TCP	22/22	Allow	Jul 29, 2019, 10:44:07		To be Published (Add)	Modity Delete
▶ Logs	9	CIDR Block		TCP	9/9	Allow	Jul 29, 2019, 11:19:52		To be Published (Add)	Modify Delete
Business Visualization	16	CIDR Block		TCP	55/55	Allow	Jul 29, 2019, 11:19:04	1000	To be Published (Add)	Modify Delete

ority	Source Type	Source	Protocol Type	Create Polic	.y	×	ated At	Description	Status	Actions
	CIDR Block		ICMP	Network Type	Internal	1	31, 2019, 10:52:23		To be Published (Add)	Modify Delete
	CIDR Block		TCP	Direction: *	Inbound Outbound	-	24, 2019, 10:33:09	1000.00010	Published	Modify Delete
	CIDR Block	10.000	TCP	Policy Type *	Allow Deny		29, 2019, 10:44:07	10	To be Published (Add)	Modify Delete
	CIDR Block		TCP	Protocol Type *	Please select \checkmark		29, 2019, 11:19:52		To be Published (Add)	Modify Delete
	CIDR Block		TCP	Port Range ĸ	For example, 22/22.		29, 2019, 11:19:04	10000	To be Published (Add)	Modify Delete
	CIDR Block	1.16	TCP	Priority *	Enler an integer from 1 to 100.		31, 2019, 10:51:45		To be Published (Add)	Modify Delete
	CIDR Block	10.000	TCP	Source Type *	CIDR Block Policy Group		31, 2019, 16:40:29	12	To be Published (Add)	Modify Delete
	CIDR Block		ICMP	Source *	Enter a CIDR block.		26, 2019, 16:45:28	100000000000000000000000000000000000000	To be Published (Add)	Modify Delete
	CIDR Block		TCP	Destination *	All ECS Instances CIDR Block		21, 2019, 03:26:28	100000-000000000	Published	Modify Delete
	CIDR Block		ICMP	Description *	Enter a description that contains 2 to 256 characters.		21, 2019, 03:26:27	10-10-10-10	To be Published (Delete)	Modify Delete

7. In the Create Policy dialog box, configure the policy.

The policy configuration items are as follows:

Item	Description	Configuration note
Network Type	The type of the network to which this policy is applied	The default value is Internal , indicating that the policy is applied to traffic between ECS instances.

Item	Description	Configuration note
Direction	The direction of traffic controlled by this policy.	 Options: Inbound : Apply the policy to traffic from other instances to the specified instance. Outbound : Apply the policy to traffic from the specified instance to other instances.
Policy Type	Indicates whether to allow or deny the traffic passing through the internal firewall.	 Options: Allow : Allow the traffic between ECS instances. Deny : Deny the traffic between ECS instances.
Protocol Type	The protocol of the traffic.	 In the Protocol Type dialog box, select a protocol. Options: TCP UDP ICMP ANY indicates any protocol. You can select ANY if you do not know which protocol is used.
Port Range	The ports that are controlled by this policy.	Enter a port range. For example, 22/22.
Priority	The priority of this policy.	Enter a priority number. Note: The priority number must be an integer from 1 to 100. If two policies have the same priority number, the Deny policy has the higher priority. If two Allow policies have the same priority number, both policies take effect at the same time.

Item	Description	Configuration note
Source Type	The type of the traffic source controlled by this policy.	 Options: CIDR Block : The policy controls the traffic from a CIDR block. Policy Group : The policy controls the traffic from multiple ECS instances in a policy group. Note: For a policy created in the ECS security group module, you cannot select Policy Group as the source type.
Source	The traffic source controlled by this policy. Enter a CIDR block or addresses of instances in a policy group.	 Specify the traffic source based on the selected source type. If the source type is set to CIDR Block , enter a CIDR block. You can specify only one CIDR block. If the source type is set to Policy Group , click the Source drop-down list, and select a policy group. This sets multiple instances in the specified policy group as the traffic source.
		You can select only one policy group as the source.
Destination	The destination of the traffic.	 Options: All ECS Instances : Apply this policy to all ECS instances. CIDR Block : Specify an IP address or a CIDR block. The policy is applied to the traffic received by the specified addresses.
Description	A description of the policy.	Enter a policy description. The description must be from 2 to 256 characters in length.

8. Click Submit.

On the Policies page, you can view, modify, or delete the inbound or outbound policies.

Cloud Firewall	Back Policies Palcy Group 19									
Overview	Inbo	und Outbound								C Create Policy
Firewall Settings	Priority	Source Type	Source	Protocol Type	Port Range	Policy Type	Created At	Description	Status	Actions
Traffic Analysis	1	CIDR Block		ICMP	-1/-1	Allow	Jul 31, 2019, 10:52:23		To be Published (Add)	Modify Delete
Security Policies	2	CIDR Block	1.000	TCP	22/22	Allow	Apr 24, 2019, 10:33:09	10000	Published	Modify Delete
Intrusion Prevention	4	CIDR Block	11-11-11-11-11-11-11-11-11-11-11-11-11-	тср	22/22	Allow	Jul 29, 2019, 10:44:07		To be Published (Add)	Modify Delete
▶ Logs	9	CIDR Block	8. State	тср	9/9	Allow	Jul 29, 2019, 11:19:52		To be Published (Add)	Modify Delete
 Business Visualization 	16	CIDR Block	1.000	тср	55/55	Allow	Jul 29, 2019, 11:19:04	100	To be Published (Add)	Modify Delete



After you delete a policy, the traffic control rule specified in this policy becomes invalid. After you delete a policy, you can still view this policy in the list but cannot perform any operation on it.

9. On the Internal Firewall page, find the policy group to be applied. Click Publish in the Actions column. The policies take effect and are synchronized to the ECS security group module.

Cloud Firewall	Access Control								
Overview	Internet Firewall Internal Firewal	VPC Firewall					Show	Guide 🚺	C [#] Create Policy Group
Firewall Settings Traffic Analysis Security Policies Access Control	Argentiation A						More Overall Status A Firewall Disabiled for 0 IP A The access control feature of effect only on the traffic control G Go to Network Traffic	Iddresses a perimeter firewall olled by the firewall	talves I.
Intrusion Prevention Logs Business Visualization	All V All Sources V	All Templates V All Status V Name	✓ En Source	ter a keyword. Template	Related Instance	Search Created At	Description	Status	Actions
Tools		The state of the state of the	Security Group Synchronizati on		10	Jan 21, 2019, 03:26:18	100.001000	To be Published	Configure Policy Publish Modify Delete
			Security Group Synchronizati on		1.	Jan 21, 2019, 03:06:08		Publish Failed	Configure Policy Publish Modify Delete
			Security Group Synchronizati on		3.	Jan 21, 2019, 02:51:27	Types and and page	Publish Failed	Configure Policy Publish Modify Delete



Note:

To apply a policy and synchronize it to the ECS security group module, you must publish it first. To view the policies that are created on the Internal Firewall page in Cloud Firewall and synchronized to the ECS security group module, log on to the ECS console, and choose Security Groups > Security Groups.

Elastic Compute Son									
clastic compute serv	Security Groups								Create Security Group
Overview	Security Group Name V Search by security g	group name. Search	€ Tag						2
Events	Security Group ID/Name	Tags VPC	Related Instances	Available IP Addresses	Network Type(All) 👻	Security Group Type	Created At	Description	Actions
Tags 🔤	Cloud_Firewall_Securit	 2.20228¹⁰⁰ 	0	1999	VPC	Basic Security Group	August 21, 2019, 10:26	The security group aut	Modify Clone Restore Rules Manage Instances Add Rules Manage ENIs
Instances		₩ wj	0	1999	VPC	Basic Security Group	August 21, 2019, 10:26	The security group aut	Modify Clone Restore Rules Manage Instances Add Rules Manage ENIs
Elastic Container In 🖸 Dedicated Hosts		No. and a second	0	2000	VPC	Basic Security Group	August 20, 2019, 15:26	df	Modify Clone Restore Rules Manage Instances Add Rules Manage ENIs
Super Computing Clus		\$	0	1000	Classic	Basic Security Group	August 8, 2019, 15:58	-	Modify Clone Restore Rules Manage Instances Add Rules Manage ENIs
Images	> • •	•	0	2000	VPC	Basic Security Group	July 3, 2019, 09:57	-	Modify Clone Restore Rules Manage Instances Add Rules Manage ENIs
Deployment & Elastic	· International	• • •	0	2000	VPC	Basic Security Group	July 2, 2019, 20:41	-	Modify Clone Restore Rules Manage Instances Add Rules Manage ENIs
Storage & Snapshots V		•	0	1999	VPC	Basic Security Group	July 2, 2019, 15:43	The security group aut	Modify Clone Restore Rules Manage Instances Add Rules Manage ENIs
Network & Security	• Antonio antonio	•	0	1999	VPC	Basic Security Group	June 1, 2019, 11:52	The security group aut	Modify Clone Restore Rules Manage Instances Add Rules Manage ENIs
ENI	• ***	•	0	1998	VPC	Basic Security Group	June 1, 2019, 11:52	The security group aut	Modify Clone Restore Rules Manage Instances Add Rules Manage ENIs

Differences between the internal firewall and ECS security groups

The internal firewall in Cloud Firewall can control the traffic between ECS instances.

For more information about the differences between the internal firewall and ECS security groups, see#unique_7

4 Access control over VPC firewalls

This topic describes access control over VPC firewalls.

Prerequisites

VPC firewalls are not automatically created. Before you create access control policies between two VPC networks, create and enable a VPC firewall first.

The access control policies take effect only after you have enabled the VPC firewall.

Cloud Firewall	Firewalls								
Overview	Internet Firewall VPC Firewall								Show Guide 🔵
Firewall Settings (86)									~
Traffic Analysis	⇒ Mechanism	Cloud Enterprise Network	- Enable - Disabled	FAQs Functions of Internet Firewalls		More	♥ Overall ▲ 0 Firewal	Status Is Disabled	^
 Security Policies 	€<> ²	VPC 1 Express Connect		What's the influence of enabling/disabli	ng Internet Firewalls?				
Access Control	Internet Internet Firewall	VPC 2		why certain assets are missed in interne	t rirewails:				
Intrusion Prevention									
Burinarr Virualization	Express Connect		CEN				Quota		
Tools	O Disabled 3 Enabled		O Disabled	8 Enabled			9 Available	20 _{Total}	
	Express Connect CEN								
	All Regions V All VPC Instance	es 🗸 All Statuses 🗸 Cloud Firewall	Ins V Enter a k	eyword. Search					
	Instance ID/Name	VPC Instance	Peer VPC Insta	ance	Bandwidth	Firewall Settings	Firewall Status	IPS Status	Actions
	ALCONOMIC TRACTOR	And Control of Control			2048Mbps		Enabled	Monitoring Mode	Modify Delete
	0.1302	The second secon	1.1.1	3	100Mbps		Enabled	Monitoring Mode	Modify Delete

Context

Cloud Firewall supports access control over VPC firewalls. You can use a VPC firewall to detect and control the traffic between two VPC networks.

Configure an access control policy

A VPC firewall allows all traffic by default. To control the traffic between VPC networks, you can deny the traffic from untrusted sources. Or, you can allow the traffic from trusted sources and then deny the traffic from all other sources.

Procedure

1. Log on to the Cloud Firewall console.

2. In the left pane, choose Security Policies > Access Control > VPC Firewall.

Cloud Firewall	Access	Control								
Overview	Intern	set Firewall Internal F	irewall VPC Firewall						Show Guide Address Bool	iks
Firewall Settings 86	(Mechanism		— Enabled	⑦ FAQs		More	🔅 Overall Status		×
Traffic Analysis			> 🏠 🤆 Clo	- Disabled ud Enterprise Network	Best practice for access control polic	y configuration		△ 0 Firewalls Disabled		
▼ Security Policies	€	●<> (≅	VPC I Exp	ress Connect	How to set priority for access contro Difference between Cloud Firewall a	I policy? nd Security groups				
Access Control	Inte	ernet Internet Fire	wall VPC 2	VPC Firewall						
Intrusion Prevention										
▶ Logs	Creat	cfw_autotest_cen-cen-5	Sinjb V All Protocols V	All Actions V Source V	Enter a keyword.	arch				
Business Visualization	Priority	Source	Destination	Protocol/Application	In/Port Policy Action	Description		Hits	Actions	
Icols	1		1.000		(Allow			0	Modify Delete Insert Move	
	2	0	100 million	TCP/ANY/0/0	i Allow	-		0	Modify Delete Insert Move	

3. Click Create.

4. In the Create VPC Firewall Policy dialog box, configure the access control policy.

Access	Control				
Inter	net Firewall Inter	nal Firewall	VPC Firewall		
4	Mechanism			Create VPC	Firewall Policy ×
			> Clou	Source Type *	IP Address Book
ŧ	€<> (VPC T Expr	Source *	Enter an IP or a CIDR block. / 32
Int	ernet Internet I	Firewall	VPC 2	Destination Type	IP Address Book Domain Name
				*	
Crea	te cfw_autotest_cen-	cen-5Injb 🗸	All Protocols V	Destination *	Enter an IP or a CIDR block. / 32
Priority	Source		Destination	Protocol *	Please select V
1	the second second		1	Port Type *	Ports Address Book
2	10.00		10.00	Ports *	Enter a port range, such as 22/22.
3			-		The port number can be from 0 to 65535, for example, 100/200. If you do not want to limit the port, enter 0/0.
				Application *	Please select V
4	1000		for many	Policy Action *	Please select ∨
5			100	Description *	
6					Submit Cancel

You can choose either of the following configuration methods based on your needs:

- Create a policy to deny the traffic from untrusted sources.
- Create a policy to allow the traffic from trusted sources, and then create another policy to deny the traffic from all other sources. Make sure that the allow policy

has a higher priority than the deny policy. For more information on policy priority, see #unique_5.

For more information on the parameters in an access control policy, see the Policy parameters table in this topic.

Dote:

A VPC firewall allows all traffic by default.

Policy parameters

Parameter	Description
Source type	The type of the source address. You can select IP or Address Book .
	 If you select IP, enter a CIDR block in the Source field. If you select Address Book, set Source to an existing address book.
	You can add multiple IP addresses to an address book to simplify policy configuration.
Source	The source IP address or CIDR block of the traffic.
	Note: You can specify only one CIDR block, for example, 1.1.1.1/32. If you set Source Type to Address Book, select an existing address book as the source.
Destination type	 IP: Set the destination to an IP address. Address Book: Set the destination to an address book. Domain Name: Set the destination to a domain name. You can specify a wildcard domain, for example, *.a.com.
	Note: If an HTTP header does not contain the host field or an HTTPS request does not contain Server Name Indication (SNI), the policy action is set to Allow by default.
Destination	Set the destination to a CIDR block.
	If you set the destination type to domain name, set the destination to a domain or a wildcard domain, for example, *.a.com.

Parameter	Description
Protocol	 ANY: Indicates any protocol. TCP UDP ICMP
Destination ports	You can specify a port range. 0/0 indicates any port. Note: If you set the protocol to ICMP, the destination port configuration is not required. If you set the protocol to ANY, the destination port configuration does not take effect on ICMP traffic.
Application	You can set the application to ANY, HTTP, HTTPS, Memcached, MongoDB, MQTT, MySQL, RDP, Redis, SMTP, SMTPS, SSH, or VNC. If Protocol is set to TCP, multiple applications are available. Otherwise, you can set the application to ANY only.
Policy action	 is Allow . Indicates whether Internet firewall allows or denies the traffic. Allow: The traffic is allowed. Deny: The traffic is denied without any notification. Monitor: The traffic is allowed. After monitoring the traffic for a period of time, you can change the policy action to Allow or
Description	Deny . A description or note about this policy. Enter a description of the policy so that you can distinguish the policies later.
Priority	Set the priority of the access control policy. The default priority is the Lowest .

5 Set or modify the priority of an access control policy

Each access control policy in Cloud Firewall is automatically assigned with a default priority. You can click Move in the Actions column to modify the priority of a policy.

Context

The priorities of policies determine the order in which the policies take effect. Each access control policy has a unique priority. The number 1 indicates the highest priority.

The larger the priority number, the lower the priority.

The maximum number of policies varies with the edition of Cloud Firewall. Therefore, the priority number range also changes with the Cloud Firewall edition.

- In Pro Edition, you can configure up to 1,000 access control policies. The priority ranges from 1 to 1,000.
- In Enterprise Edition, you can configure up to 2,000 access control policies. The priority ranges from 1 to 2,000.
- In Ultimate Edition, you can configure up to 5,000 access control policies. The priority ranges from 1 to 5,000.

Note:

A new policy has the lowest priority by default. That is, this policy is assigned with the largest priority number.

Procedure

- 1. Log on to the Cloud Firewall console.
- 2. In the left-side navigation pane, choose Security Policies > Access Control > Internet Firewall.
- 3. On the Outbound Policies or Inbound Policies tab page, locate the access control policy of which the priority needs to be modified. Click Move in the Actions column.

4. Modify the priority in the displayed dialog box.

5. Click OK.



After you modify the priority of a policy, the priorities of policies with lower priorities decrease accordingly.

6 Intrusion prevention policies

With the built-in IPS, Cloud Firewall defends against intrusions and common attacks in real time, and provides virtual patches for precise threat detection to intelligently block intrusions.

Cloud Firewall supports the following intrusion prevention features:

- Threat Intelligence: Cloud Firewall scans for and detects threat intelligence, and blocks malicious behavior from command-and-control servers in advance based on received threat intelligence.
- Basic Rules: Cloud Firewall detects malware and intercepts communication with command-and-control servers or backdoors.
- Virtual Patching: Cloud Firewall provides virtual patches to defend against exploits of popular high-risk vulnerabilities in real time.

IPS running mode

IPS supports the following running modes:

• Observation Mode: If you select this option, IPS monitors for malicious traffic and sends alarms when detecting it.

Note:

By default, IPS runs in Observation Mode mode once you subscribe to the Cloud Firewall service.

• Interception Mode: If you select this option, IPS intercepts malicious traffic to block intrusions.

Basic defense

IPS provides basic intrusion prevention capabilities to intercept password cracking , command execution vulnerabilities, and connections from infected servers to command-and-control servers.

IPS supports the following basic intrusion prevention modes:

• Basic Rules: If this mode is enabled, IPS provides basic intrusion prevention based on built-in intrusion prevention rules. Threat Intelligence: If this mode is enabled, IPS can perceive threat sources across the entire Alibaba Cloud network in advance. IPS learns malicious IP addresses (for example, those of malicious visitors, scanners, and crackers) on the entire network and precisely intercepts their intrusions. [DO NOT TRANSLATE]

Virtual patching

You can use virtual patches to defend against popular high-risk vulnerabilities without installing the patches in your system.

Procedure

- 1. Log on to the Cloud Firewall console.
- 2. In the left-side navigation pane, choose Security Policies > Intrusion Prevention. The Intrusion Prevention page is displayed.
- 3. In the Mode Selection area, click Observation Mode or Interception Mode.



We recommend that you click Interception Mode.

4. In the Basic Defense area, turn on or off the Basic Rules or Threat Intelligence switch.

Note:

We recommend that you turn on both the Basic Rules and Threat Intelligence switches.

5. In the Virtual Patching, enable or disable the virtual patching function.



We recommend that you enable the virtual patching function.

- 6. Select the required virtual patches as follows: Click Custom in the Virtual Patching area to go to the Virtual Patch Management dialog box.
- 7. Click Enable or Disable to enable or disable a specified patch.



Disabled patches cannot be automatically updated. We recommend that you enable all virtual patches.