

# Alibaba Cloud Web Application Firewall

## Product Introduction

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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 <b>OK</b> .
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 What is Alibaba Cloud WAF?

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Alibaba Cloud WAF is a web application firewall that monitors, filters, and blocks HTTP traffic to and from web applications. Based on the big data capacity of Alibaba Cloud Security, Alibaba Cloud WAF helps you to defend against common web attacks such as SQL injections, Cross-site scripting (XSS), web shell, Trojan, and unauthorized access, and to filter out massive HTTP flood requests. It protects your web resources from being exposed and guarantees your website security and availability.

Alibaba Cloud WAF is easy to deploy. You can enable WAF protection for your website by subscribing to Alibaba Cloud WAF, configuring the website on the WAF console, and updating the website's DNS records using the WAF Cname address . When WAF is deployed on your website, all network traffic to the website is inspected by WAF. WAF identifies and filters out malicious traffic, and only returns valid traffic to the origin server.

Follow the [WAF learning path](#) to get started with WAF.

## 2 Features

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Alibaba Cloud WAF (Web Application Firewall) helps to protect your website against various web attacks and to guarantee website security and availability. It leverages both core defense capabilities and big data capabilities to achieve reliable web security. Alibaba Cloud WAF offers the following features:

### Request monitoring

Monitors the HTTP and HTTPS (only for WAF Business and Enterprise editions) requests that are forwarded to your website.

### Web application protection

Protects your website against common web application attacks

- Defense against common OWASP threats, such as SQL injection, XSS attacks, Webshell uploading, command injection, illegal HTTP protocol requests, common Web server vulnerability attacks, unauthorized access to core files, and path traversing. Also provides backdoor isolation and scanning protection services.
- Websites stealth: Keeps the website address invisible to attackers to avoid direct attacks that bypass WAF.
- Regular and timely patches against 0day vulnerabilities: The protection rules used by Alibaba WAF are tried and tested and cover the latest vulnerability patches, which are updated in a timely manner and synchronized globally immediately after release.
- User-friendly observation mode: Provides observation mode for newly launched businesses on the website. In this mode, a suspected attack only triggers a warning, instead of a blocking action, in a bid to facilitate the statistics of business false alarms.

### Protection against HTTP flood attacks

- Manages the access frequency from a single source IP address by using re-direction verification and human/machine identification.
- Prevents massive and slow request attacks based on precise access control policies and recognition of exceptional response code, URL request distribution, Referer, and User-Agent requests.

- Establishes threat intelligence and trustful access analysis models to quickly identify malicious requests by making full use of Alibaba Group's big data security advantages.

#### HTTP ACL Policy

- Provides a user-friendly configuration console that supports condition combinations of common HTTP fields such as IP, URL, Referer, and User-Agent to form precise access control policies. Also supports anti-leech protection, website backend protection, and so on.
- Combined with common web attack protection and HTTP flood protection, access control helps to create multiple layers of protection to suit a variety of needs to identify legitimate and malicious requests.

#### Virtual patches

Adjusts web protection policies to enable swift protection before patches are released for rectification of web application vulnerabilities.

#### Attack event management

Supports centralized management and analysis of attack events, attack traffic, and attack scales.

#### Reliability

- **Load balancing:** Provides services in cluster mode, with load balancing among multiple devices. Supports multiple load balancing policies.
- **Smooth capacity expansion:** Reduces or increases the number of cluster devices based on actual traffic and performs flexible capacity expansion of service.
- **No single-point issues:** Even if a single device breaks down or is offline for repair, services are not affected at all.

For more information, see the [Web Application Firewall product detail](#) page.

## 3 Benefits

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This topic describes what you can get from Alibaba Cloud WAF.

### More than 10 years of web security experience

- Built from over a decade' s worth of web security experience from Alibaba Group involving successful online businesses in China, such as Taobao, Tmall, and Alipay.
- Professional security team consisting of security experts from around the globe.
- Resists existing OWASP known threats, and updates for the latest vulnerabilities.

### HTTP flood mitigation and bot protection

- Effective mitigation of HTTP and HTTPS floods.
- Prevents web crawlers and other bots from consuming website' s resources.
- Detects and blocks suspicious requests that may cause negative impacts on your server, such as bandwidth consumption, database/SMS/API interface exhaustion, increased latency, or even a breakdown.
- Customizable rules for varying business scenarios.

### Big data ability

- Alibaba Cloud hosts more than 37% of China-based websites.
- Alibaba Cloud mitigates more than 800 million attacks every day.
- Alibaba Cloud maintains the most popular accessed IP database in China.
- Numerous case studies on the patterns, methods, and signatures of the popular web attacks.
- Analysis through the Alibaba Cloud big data platform in combination with the latest technologies.

### Easy and reliable

- Setup and activation within 5 minutes.
- No hardware or software installation, or router and switch configuration.
- Works as a defense cluster to avoid single point failure and redundancy.
- Excellent processing ability.

## 4 Scenarios

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Alibaba Cloud WAF is applicable to Web application security protection of various websites, such as finance, e-commerce, o2o Internet+, games, government, and insurance.

You can use Alibaba Cloud WAF to solve the following problems:

- Prevent data leaks and avoid intrusions from malicious injections that may lead to core database leaks from the website.
- Prevent malicious HTTP flood attacks. Alibaba Cloud WAF can block large-volume malicious requests to safeguard website availability.
- Prevent Trojans from being uploaded to webpages with the intention of tampering with the content, and maintain the credibility of the website.
- Provide virtual patches to address the latest known website vulnerabilities and provide quick fixes wherever required.