

# Mobile Security

## Product Introduction

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## Overview

Alibaba Cloud Mobile Security is an online security service for Android mobile applications that can protect apps from potential risks, threats, and vulnerabilities. With its extensive vulnerability scan and malware protection, Mobile Security ensures end-to-end protection throughout the entire lifecycle of a mobile application. In addition, it protects apps from exposure to poorly written code, insecure API implementations, and other risks.

Mobile Security provides two commonly used services: vulnerability scan and app hardening.

Vulnerability scan monitors Android applications, quickly locates vulnerabilities, and provides full restore solutions. Static and dynamic scanning methods are used to discover as many security vulnerabilities as possible.

App hardening is a set of processing methods imposed on an app to improve the Android application's anti-cracking ability. Among the most common methods are re-encoding, shelling, and modifying the command calling sequence.

## Key features

Alibaba Cloud Mobile Security supports vulnerability scan and app hardening, with the following features.

### Quick application vulnerability detection

#### Static vulnerability detection

Scans and locates vulnerabilities statically and performs taint analysis to retrieve accurate variable values.

Analyzes and tracks vulnerabilities at the granularity of the register.

### Dynamic vulnerability detection

Scans and locates vulnerabilities dynamically and performs Fuzz testing to restore the real Android environment and obtain accurate results.

## Application vulnerabilities resolution

Provides a complete remedial solution for your mobile application based on the scan results.

## Advanced security with application hardening

Applies various methods such as re-encoding, shelling, and modifying the command calling sequence to enhance the anti-cracking capability of your application.

Employs techniques that focus on application hardening intensity, while maintaining the compatibility of your application.

## Core application hardening techniques

Mainstream static analysis tool prevention, which effectively prevents hackers from using static analysis tools such as APKTool, dex2jar, and JEB to analyze applications' Java-layer code.

### SO shelling

Shells the SO file to effectively prevent malicious users from using tools, such as IDA and readelf, to analyze SO file logic.

### DEX shelling

Shells the DEX file by using loading and remedial techniques during dynamic running.

Prevents hackers from dumping the Java-layer code memory.

### Constant encryption

Encrypts plaintext constant strings in the DEX file.

Uses the dynamic decryption feature to decrypt strings during runtime, increasing the difficulty in reverse analysis.

#### Java command translation

Modifies the calling relationship link of the service logic at the Java layer.

Ensures protection of the Java-layer code from hackers by not allowing access to the entire service logic.

#### Java execution simulation

Detaches commands from the DEX file and simulates execution in a user-defined execution environment.

Effectively prevents malicious users from access to a dump of Java-layer code using commands.

## Benefits

The Alibaba Cloud Mobile Security users benefit from the following advantages.

### Robust scanning

Guarantees up to 99.9% availability.

Automatically distributes traffic across instances in different availability zones.

Quickly identifies unhealthy instances and routes traffic to healthy instances.

### Comprehensive security protection

Applies comprehensive security protection technology to various applications.

Offers high stability and compatibility.

Maintains minimal impact on mobile applications.

## Easy to access

Allows for quick access and integration of the security service into your system through a SaaS-based model.

Facilitates an easy automation of services and functionalities provided by mobile applications.

## End-to-end risk management

Offers risk analysis and hardening techniques for the lifecycle of a mobile application from the initial development stage to the final release stage.

Provides incremental hardening from the development stage until the point of release.

## Professional service team

Provides 24\*7 support services from a specialized team of Alibaba Cloud Mobile Security experts.