

Site: https://www.example.com

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ZAP Version: 2.16.0

ZAP by **Checkmarx** 

## **Summary of Alerts**

Risk Level	Number of Alerts
High	0
Medium	2
Low	2
Informational	1
False Positives:	0

### **Summary of Sequences**

For each step: result (Pass/Fail) - risk (of highest alert(s) for the step, if any).

#### **Alerts**

Name	Risk Level	Number of Instances
Content Security Policy (CSP) Header Not Set	Medium	3
Missing Anti-clickjacking Header	Medium	1
Strict-Transport-Security Header Not Set	Low	3
X-Content-Type-Options Header Missing	Low	1
Re-examine Cache-control Directives	Informational	1

#### **Alert Detail**

Medium Content Security Policy (CSP) Header Not Set

# Description

Content Security Policy (CSP) is an added layer of security that helps to detect and mitigate certain types of attacks, including Cross Site Scripting (XSS) and data injection attacks. These attacks are used for everything from data theft to site defacement or distribution of malware. CSP provides a set of standard HTTP headers that allow website owners to declare approved sources of content that browsers should be allowed to load on that page — covered types are JavaScript, CSS, HTML frames, fonts, images and embeddable objects such as Java applets, ActiveX, audio and video files.

URL <a href="https://www.example.com">https://www.example.com</a>

Method GET

Parameter

Attack

Evidence

Other Info

URL <a href="https://www.example.com/robots.txt">https://www.example.com/robots.txt</a>

Method GET

Parameter

Attack

Evidence

Other Info

URL <a href="https://www.example.com/sitemap.xml">https://www.example.com/sitemap.xml</a>

Method GET

Parameter

Attack

Evidence

Other Info

Instances 3

Solution Ensure that your web server, application server, load balancer, etc. is configured to set the Content-Security-Policy header.

		https://developer.mozilla.org/en-US/docs/Web/Security/CSP/Introducing_Content_Security_Policy
Reference		https://cheatsheetseries.owasp.org/cheatsheets/Content_Security_Policy_Cheat_Sheet.html https://www.w3.org/TR/CSP/ https://w3c.github.io/webappsec-csp/ https://web.dev/articles/csp https://caniuse.com/#feat=contentsecuritypolicy https://content-security-policy.com/
CWE Id		<u>693</u>
WASC Id		15
Plugin Id		<u>10038</u>
Medium		Missing Anti-clickjacking Header
Description	1	The response does not protect against 'ClickJacking' attacks. It should include either Content-Security-Policy with 'frame-ancestors' directive or X-Frame-Options.
URL		https://www.example.com
	Method	GET
	Parameter	x-frame-options
	Attack	
	Evidence	
	Other Info	
Instances		1
		Modern Web browsers support the Content-Security-Policy and X-Frame-Options HTTP headers. Ensure one of them is set on all web pages returned by your site/app.
Solution		If you expect the page to be framed only by pages on your server (e.g. it's part of a FRAMESET) then you'll want to use SAMEORIGIN, otherwise if you never expect the page to be framed, you should use DENY. Alternatively consider implementing Content Security Policy's "frame-ancestors" directive.
Reference		https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/X-Frame-Options
CWE Id		<u>1021</u>
WASC Id		15
Plugin Id		10020
Low		Strict-Transport-Security Header Not Set
Description		HTTP Strict Transport Security (HSTS) is a web security policy mechanism whereby a web server declares that complying user agents (such as a web browser) are to interact with it using only secure HTTPS connections (i.e. HTTP layered over TLS/SSL). HSTS is an IETF standards track protocol and is specified in RFC 6797.

URL https://www.example.com Method GET Parameter Attack Evidence Other Info URL https://www.example.com/robots.txt Method **GET** Parameter Attack Evidence Other Info URL https://www.example.com/sitemap.xml Method **GET** Parameter Attack Evidence Other Info Instances 3 Ensure that your web server, application server, load balancer, etc. is configured to enforce Solution Strict-Transport-Security.  $\underline{https://cheatsheetseries.owasp.org/cheatsheets/HTTP\_Strict\_Transport\_Security\_Cheat\_Sheet.html}$ https://owasp.org/www-community/Security\_Headers Reference https://en.wikipedia.org/wiki/HTTP\_Strict\_Transport\_Security https://caniuse.com/stricttransportsecurity https://datatracker.ietf.org/doc/html/rfc6797 CWE Id <u>319</u> WASC Id 15 Plugin Id 10035

Low		X-Content-Type-Options Header Missing
Description		The Anti-MIME-Sniffing header X-Content-Type-Options was not set to 'nosniff'. This allows older versions of Internet Explorer and Chrome to perform MIME-sniffing on the response body, potentially causing the response body to be interpreted and displayed as a content type other than the declared content type. Current (early 2014) and legacy versions of Firefox will use the declared content type (if one is set), rather than performing MIME-sniffing.
URL		https://www.example.com
	Method	GET
	Parameter	x-content-type-options
	Attack	
	Evidence	
	Other Info	This issue still applies to error type pages (401, 403, 500, etc.) as those pages are often still affected by injection issues, in which case there is still concern for browsers sniffing pages away from their actual content type. At "High" threshold this scan rule will not alert on client or server error responses.
Instances		1
		Ensure that the application/web server sets the Content-Type header appropriately, and that it sets the X-Content-Type-Options header to 'nosniff' for all web pages.
Solution		If possible, ensure that the end user uses a standards-compliant and modern web browser that does not perform MIME-sniffing at all, or that can be directed by the web application/web server to not perform MIME-sniffing.
Defenses		https://learn.microsoft.com/en-us/previous-versions/windows/internet-explorer/ie-developer/compatibility
Reference		https://owasp.org/www-community/Security_Headers
CWE Id		<u>693</u>
WASC Id		15
Plugin Id		10021
Information	nal	Re-examine Cache-control Directives
Description		The cache-control header has not been set properly or is missing, allowing the browser and proxies to cache content. For static assets like css, js, or image files this might be intended, however, the resources should be reviewed to ensure that no sensitive content will be cached.
URL		https://www.example.com
	Method	GET
	Parameter	cache-control

Attack

Evidence max-age=1473 Other Info Instances 1 For secure content, ensure the cache-control HTTP header is set with "no-cache, no-store, Solution must-revalidate". If an asset should be cached consider setting the directives "public, max-age, immutable". https://cheatsheetseries.owasp.org/cheatsheets/Session\_Management\_Cheat\_Sheet.html#web-content-organization-conten Reference  $\underline{\text{https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/Cache-Control}}$ https://grayduck.mn/2021/09/13/cache-control-recommendations/ CWE Id <u>525</u> WASC Id 13 Plugin Id

### **Sequence Details**

With the associated active scan results.

10015