Sri Lanka Institute of Information Technology



Individual Assignment

Bug Bounty Report

Web Security - IE2062

BSc Honors in Information Technology Specializing in Cyber Security



Web Security - IE2062

Year 2 Semester 2 - 2025

CASE STUDY NAME	BUG BOUNTY Report 06
CAMPUS/CENTER	SLIIT KANDY UNI

Student Details

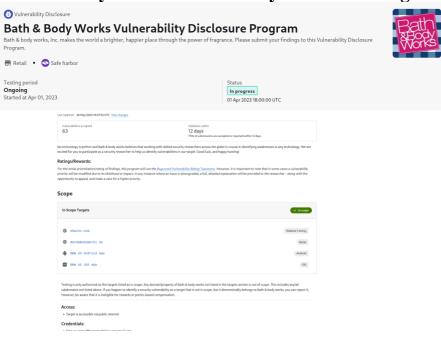
	Student Registration Number	Student Name	
1	IT23222854	JAYASINGHE B. I	



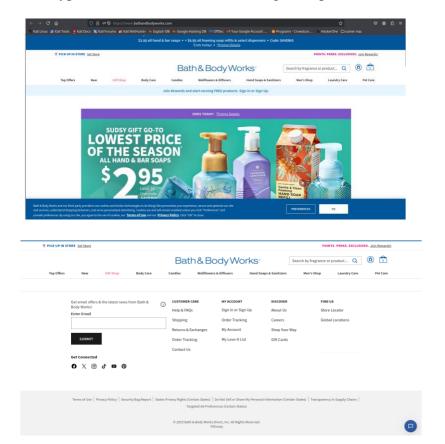
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Domain - Bath & Body Works Vulnerability Disclosure Program



- Link https://www.bathandbodyworks.com/
- Type Personal care and home fragrance products





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1. Multi Tool Web Vulnerability Scanning

1.Retire.js - This tool is used to detect the use of JavaScript libraries and Node.js modules with known vulnerabilities.

Retire.j	s	☑ Enabled ☐ Show unknown
axios 1.7.4		Found in https://objects.githubusercontent.com/github-production-rel asset_2e65be/838377826/67559969-e964-467d-9659-58bb91a4d64Algorithm-AWS4-HMAC-SHA2568X-Amz-Credential-releaseassetproduction%2/F20250428%2Fus-east-1%2Fe3%2Faws4_request&X-Amz-Date-20250428T005846Z8Expires_3008X-Amz-Signature_1061744095002499b/9a8e19d59e6b2e2f1d2e70407858dAmz-SignedHeaders-host&response-content-dispositionattachment%38%20filename%30bwebchat_js&response-type-application%2Foctet-stream - Vulnerability info: High axios Requests Vulnerable To Possible SSRF and Credential L via Absolute URL CVE-2025-27152 GHSA-jr5f-v2jv-69x6
jquery-ui- dialog	1.11.2	Found in https://www.bathandbodyworks.com/on/demandware.static BathAndBodyWorks-Site/-/en_US/v1745747208540/lib/jquery/ui/jque Vulnerability info: Medium XSS Vulnerability on closeText option CVE-2018-7103 281 (hpcf-8v
jquery-ui	1.11.2	Found in https://www.bathandbodyworks.com/on/demandware.static BathAndBodyWorks-Site/-/en_US/v1745747208540/lib/jquery/ui/jque Vulnerability info: Medium XSS in the 'altField' option of the Datepicker widget CVE-20 GHSA-9gj3-hwp5-pmwc

jquery-ui	1.11.2	Found in https://www.bathandbodyworks.com/on/demandware.static BathAndBodyWorks-Site/-en_US/v1745747208540/lib/jquery/ui/jque Vulnerability info: Medium XSS in the 'altField' option of the Datepicker widget CVE-20 GHSA-9gj3-hwp5-pmwc Medium XSS in the 'of option of the '.position()' util CVE-2021-4118 gpqq-952q-5327 Medium XSS Vulnerability on text options of jQuery UI datepicker CVE-2021-41183 15284 GHSA-j7qv-pgf6-hvh4 Medium XSS When refreshing a checkboxradio with an HTML-like ini CVE-2022-31160 2101 GHSA-h6gj-6jjq-h8g9
jquery- validation	1.13.1	Found in https://www.bathandbodyworks.com/on/demandware.staticeBathAndBodyWorks-Sitel-/len_US/v1745747208540/lib/jquery/jquery. Vulnerability info:
		High Regular Expression Denial of Service vulnerability CVE-202 jxwx-85vp-gwwm Low ReDoS vulnerability in URL2 validation CVE-2021-43306 24 h2pv-wvph High ReDoS vulnerability in url and URL2 validation CVE-2022-3* ffmh-x56j-9rc3
		Medium Potential XSS via showLabel 2462
jquery	2.1.1.min	Found in https://www.bathandbodyworks.com/on/demandware.static BathAndBodyWorks-Site/-/en_US/v1745747208540/lib/jquery/jquery- Vulnerability info:

jquery	2.1.1.min	Found in https://www.bathandbodyworks.com/on/demandware.static BathAndBodyWorks-Site/-/en_US/v1745747208540/lib/jquery/jquery Vulnerability info:
		Low jQuery 1.x and 2.x are End-of-Life and no longer receiving s updates 73 162
		Medium 3rd party CORS request may execute 2432 CVE-2015-9251 rmxg-73gg-4p98
		Medium jQuery before 3.4.0, as used in Drupal, Backdrop CMS, and products, mishandles jQuery.extend(true, (),) because of Object.prototype pollution CVE-2019-11358 4333 GHSA-6c
		Medium passing HTML containing <option> elements from untrusted even after sanitizing it - to one of jQuery's DOM manipulatio (i.ehtml(), .append(), and others) may execute untrusted c CVE-2020-11023 4647 GHSA-jpcq-cgw6-v4j6</option>
		Medium Regex in its jQuery.htmlPrefilter sometimes may introduce X CVE-2020-11022 4642 GHSA-gxr4-xjj5-5px2

Summary fo the above vulnerabilities.

Library	Ver sion	Vulnerability Description	Severity	Found At URL	Referenc e (CVE/Git Hub)
axios	1.7.	Potential issue raised in GitHub repository	Unknown	https://objects.githubuser content.com/github- production-release-asset- 2e65be/	https://git hub.com/a xios/axios /issues/53 46
jquery- ui- dialog	1.11	XSS Vulnerability on closeText option (CVE-2016-7103)	Medium	https://www.bathandbody works.com/on/demandwa re.static/Sites-	CVE- 2016- 7103



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jquery-	1.11	XSS Vulnerability in altField	Medium	https://www.bathandbody	CVE-
ui	.2	option of the Datepicker widget		works.com/on/demandwa	2016-
		(CVE-2016-7103)		re.static/Sites-	7103
				BathAndBodyWorks-	
				Site/-/en_US/js/jquery-	
				ui.js	

Library	Versi	Vulnerability	Severity	Reference	Found at URL
	on	Description		(CVE/GHSA)	
jQuery-ui	1.11.2	Medium XSS	Medium	CVE-2021-41183,	https://www.bathandbodyworks.com/jq
		in "altField"		GHSA-9gj3-hsp5-	uery-ui/jquery-ui.js
		option of		7mcf	
		Datepicker			
		widget			
		Medium XSS	Medium	CVE-2021-41183,	
		in "of" option		GHSA-9gj3-hsp5-	
		of "position"		7mcf	
		utility			
		Medium XSS	Medium	CVE-2021-41183,	
		in text options		GHSA-9gj3-hsp5-	
		of Datepicker		7mcf	
		XSS in	Medium	CVE-2022-31160,	
		checkbox		GHSA-6jgj-hsp5-	
		selection with		7mcf	
		an HTML file			
		in the "label"			
jQuery-	1.13.1	High Regular	High	CVE-2022-43306,	https://www.bathandbodyworks.com/jq
validation		Expression		GHSA-6jgj-hsp5-	uery-validation/jquery-validation.js
		Denial of		7mcf	
		Service			
		(ReDoS)			
		vulnerability	-	GYVE 2024 4220 5	
		Low ReDoS	Low	CVE-2021-43306,	
		vulnerability in		GHSA-6jgj-hsp5-	
		URL2		7mcf	
		validation	TT' 1	CVE 2022 42206	
		High ReDoS	High	CVE-2022-43306,	
		vulnerability in		GHSA-6jgj-hsp5-	
		URL and URL2		7mcf	
		validation			
			Madium		
		Medium Potential VSS	Medium		
		Potential XSS			
		via "showLabel"			
jQuery	2.1.1.	Medium XSS	Medium		https://www.bathandbodyworks.com/jq
Janery		in "showLabel"	Mediuiii		uery/jquery.js
	min	III SHOWLADEL			uery/jquery.js



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Library	Version	Source URL	Vulnerability Description	Severity	Reference (CVE/GHSA)
jQuery	2.1.1.min	jQuery Source	jQuery 1.x and 2.x are End-of-Life and no Low longer receiving security updates		-
			3rd party CORS requests may execute untrusted code	Medium	CVE-2015-9251, GHSA-mxrg-739g- 4p98
			Mishandles jQuery.extend(true,) due to Object.prototype pollution	Medium	CVE-2019-11358, GHSA-c2h3-6vqh- wj42
			Passing HTML containing elements to jQuery DOM manipulation methods may execute untrusted code	Medium	CVE-2020-11022, GHSA-gxr4-xjj5-5px2
			Regex in its jQuery.htmlPrefilter may introduce XSS	Medium	CVE-2020-11022, GHSA-gxr4-xjj5-5px2

2 Rapidscan

___(binosh@BINZ)-[~/Desktop/WS Assingment/Tools/rapidscan]
_\$ python3 rapidscan.py -u https://www.bathandbodyworks.com/

Out of 80 vulnerabilities checked for https://www.bathandbodyworks.com/ 4 vulnerabilities were detected



4. OWASP

CSP: Failure to Define Directive with No Failback

URL:

INDEX:

| Medium |

CSRF (Cross-Site Request Forgery) vulnerability related to failure in the Content Security Policy directive.



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Vulnerability Overview: The system lacks a defined fallback for the Content Security Policy (content-security-policy parameter), specifically for the img-src directive.

Risk Level: Medium, with High confidence in the report findings.

Issue: The provided img-src directive allows images from numerous external sources. This expansive list increases the risk of CSRF attacks as malicious actors could exploit insecure



Content Security Policy (CSP). The report flags the use of a **wildcard directive**, marking it as a medium-risk issue with high confidence.

Risk Level: Medium - While not critical, this could lead to vulnerabilities such as resource misuse or unauthorized external interactions.

Concern: The wildcard directive in the CSP could allow unintended external domains to interact with the website. This might introduce risks like data leakage or malicious scripts.

Evidence: A detailed list of external domains (e.g., Salesforce, Google, Facebook) indicates widespread reliance on third-party resources, which could be exploited if not tightly controlled.

Implications

Security Risks: Improperly configured CSPs may expose the site to potential attacks, including Cross-Site Scripting (XSS).

Mitigation: It's advisable to avoid using wildcards in CSPs and restrict allowable domains to trusted ones.



Cross-Domain Misconfiguration vulnerability.

URL Affected: The bathandbodyworks.com domain.



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Risk Level: Medium (Confidence: Medium).

Issue: A misconfiguration of Cross-Origin Resource Sharing (CORS) settings on the web server.

Key Parameter: Access-Control-Allow-Origin:

Impact

This misconfiguration allows third-party domains to make cross-domain read requests. While browser implementations prevent reading authenticated API responses from third-party domains, unauthenticated APIs could still be exploited.

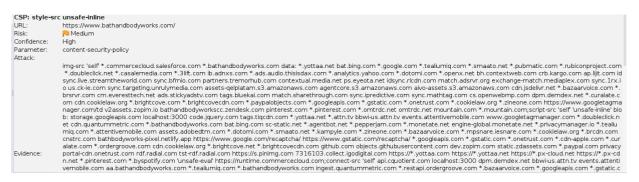
Implications

Attackers could potentially exploit this misconfiguration to access sensitive data that relies on additional security measures (e.g., IP address whitelisting).

Although this issue affects unauthenticated APIs, it can still pose risks if sensitive information is inadvertently exposed.

Mitigation Steps

Review and restrict CORS policy to allow only specific trusted domains. Avoid using wildcards (*) in CORS configurations, especially for sensitive resources.



Content Security Policy (CSP). The report flags the use of a **wildcard directive**, marking it as a medium-risk issue with high confidence.

Risk Level: Medium — While not critical, this could lead to vulnerabilities such as resource misuse or unauthorized external interactions.

Concern: The wildcard directive in the CSP could allow unintended external domains to interact with the website. This might introduce risks like data leakage or malicious scripts.

Evidence: A detailed list of external domains (e.g., Salesforce, Google, Facebook) indicates widespread reliance on third-party resources, which could be exploited if not tightly controlled. Implications:

Security Risks: Improperly configured CSPs may expose the site to potential attacks, including Cross-Site Scripting (XSS).



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Mitigation: It's advisable to avoid using wildcards in CSPs and restrict allowable domains to trusted ones.

URL: https://www.bathandbodyworks.com/
Risk: | Medium | High
Confidence: High
Confidence: High
Content-security-policy | Medium | High
Content-security-policy-policy-policy-policy-policy-policy-policy-policy-policy-policy-policy-policy-policy-pol

Content-Security-Policy (CSP) vulnerability on the website

"https://www.bathandbodyworks.com/" with a **medium risk level**. The parameter in question, script-src unsafe-inline, indicates that the site's security policies allow potentially unsafe inline JavaScript execution. This can expose the website to various attacks, such as cross-site scripting (XSS).

Risk Level: Medium suggests this issue is significant enough to warrant attention, but it's not immediately critical.

Parameter: The CSP header defines trusted sources for loading scripts. Unsafe inline scripts in this case are risky, as they bypass the CSP's protective measures.

Attack Type: Exploiting this vulnerability could allow attackers to inject malicious scripts.

Mitigation of this vulnerability: involves configuring the CSP header to disallow unsafe inline scripts and ensuring all scripts are served from trusted, verified sources.

Content Security Policy (CSP). The report flags the use of a **wildcard directive**, marking it as a medium-risk issue with high confidence.

Risk Level: Medium — While not critical, this could lead to vulnerabilities such as resource misuse or unauthorized external interactions.

Concern: The wildcard directive in the CSP could allow unintended external domains to interact



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with the website. This might introduce risks like data leakage or malicious scripts.

Evidence: A detailed list of external domains (e.g., Salesforce, Google, Facebook) indicates widespread reliance on third-party resources, which could be exploited if not tightly controlled. **Implications**

Security Risks: Improperly configured CSPs may expose the site to potential attacks, including Cross-Site Scripting (XSS).

Mitigation: It's advisable to avoid using wildcards in CSPs and restrict allowable domains to trusted ones.

Content Security Policy (CSP) vulnerability affecting

"https://www.bathandbodyworks.com/sitemap.xml.

Risk Level: Medium, meaning it's important but not immediately critical.

Issue: CSP header is missing, which weakens defenses against attacks like Cross Site Scripting (XSS) and data injection.

Impact: Without a CSP, malicious scripts could be injected, leading to data theft, site defacement, or malware distribution.

Recommendations

Implement a CSP Header: Ensure only trusted content sources are allowed.

Prevent Unsafe Inline Scripts: Avoid policies that permit inline JavaScript, as it bypasses security measures.

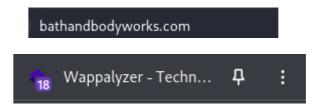
Regular Vulnerability Scanning: Continue testing for security weaknesses to catch issues proactively.



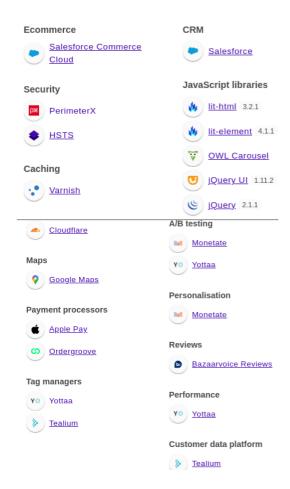
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Wappalyzer



Here are the results of the Wappalyzer detector





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How to mitigate the above Vulnerability

1. Update Libraries

axios: Upgrade to the latest version where vulnerabilities like SSRF, CSRF, and Proxy Authentication Bypass are patched.

bootstrap: Move to version 4.3.1 or later to address XSS vulnerabilities.

jquery: Upgrade to version 3.5.0 or later to mitigate issues like Prototype Pollution and CORS exploitation.

2. Implement Security Best Practices

Cross-Site Scripting (XSS): Sanitize and validate all user inputs.

Use Content Security Policy (CSP) headers to prevent malicious scripts from executing. Avoid using innerHTML or similar methods for DOM manipulation.

Server-Side Request Forgery (SSRF): Restrict outgoing requests to trusted domains. Use network-level controls like firewalls to block unauthorized requests.

Cross-Site Request Forgery (CSRF): Implement anti-CSRF tokens in forms and APIs. Use SameSite cookies to prevent cross-origin requests.

3. Monitor and Audit

Regularly scan your application using tools like Retire.js, Nmap, or Rapidscan to identify outdated libraries and vulnerabilities.

Subscribe to security advisories for libraries you use to stay informed about new vulnerabilities.

4. Apply Patches

For libraries that are no longer maintained (e.g., older versions of jQuery), consider replacing them with actively maintained alternatives or applying custom patches if feasible.

5. Secure Configuration

Disable unnecessary features in libraries that could expose vulnerabilities.

Use secure defaults for configurations, such as enabling HTTPS and disabling insecure protocols.



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Proof of report Submission



04 May 2025 19:21:47 UTC

Submission Details

d0926684-e180-4b46-9b6e-242b3227b37d

Cross-Site Request Forgery (CSRF) > Action-Specific > Authenticated