

# Security Audit: <https://juice-shop-vsqa1.onrender.com>

ID: 16b16ae3-5283-45e3-8b64-a4dbf2c13cf2 | Date: 2026-02-21 | Findings: 63

Sev	<span style="color: red;">●</span> Crit	<span style="color: orange;">●</span> High	<span style="color: gold;">●</span> Med	<span style="color: blue;">●</span> Low	<span style="color: purple;">●</span> Info
Amt	0	7	19	37	0

## Findings Summary

#	Sev	Type	Endpoint
1	<span style="color: orange;">●</span>	Broken Access Control	<a href="https://juice-shop-vsqa1.onrender.com/admin">https://juice-shop-vsqa1.onrender.com/admin</a>
2	<span style="color: orange;">●</span>	Broken Access Control	<a href="https://juice-shop-vsqa1.onrender.com/administrator">https://juice-shop-vsqa1.onrender.com/administrator</a>
3	<span style="color: orange;">●</span>	Broken Access Control	<a href="https://juice-shop-vsqa1.onrender.com/admin/dashboa...">https://juice-shop-vsqa1.onrender.com/admin/dashboa...</a>
4	<span style="color: orange;">●</span>	Broken Access Control	<a href="https://juice-shop-vsqa1.onrender.com/panel">https://juice-shop-vsqa1.onrender.com/panel</a>
5	<span style="color: orange;">●</span>	Broken Access Control	<a href="https://juice-shop-vsqa1.onrender.com/manage">https://juice-shop-vsqa1.onrender.com/manage</a>
6	<span style="color: orange;">●</span>	Broken Access Control	<a href="https://juice-shop-vsqa1.onrender.com/backend">https://juice-shop-vsqa1.onrender.com/backend</a>
7	<span style="color: orange;">●</span>	Cryptographic Failure	<a href="https://juice-shop-vsqa1.onrender.com">https://juice-shop-vsqa1.onrender.com</a>
8	<span style="color: gold;">●</span>	Information Disclosure	<a href="https://juice-shop-vsqa1.onrender.com/.env">https://juice-shop-vsqa1.onrender.com/.env</a>
9	<span style="color: gold;">●</span>	Information Disclosure	<a href="https://juice-shop-vsqa1.onrender.com/admin">https://juice-shop-vsqa1.onrender.com/admin</a>
10	<span style="color: gold;">●</span>	Information Disclosure	<a href="https://juice-shop-vsqa1.onrender.com/.git/HEAD">https://juice-shop-vsqa1.onrender.com/.git/HEAD</a>
11	<span style="color: gold;">●</span>	Information Disclosure	<a href="https://juice-shop-vsqa1.onrender.com">https://juice-shop-vsqa1.onrender.com</a>
12	<span style="color: gold;">●</span>	CORS Misconfiguration	<a href="https://juice-shop-vsqa1.onrender.com">https://juice-shop-vsqa1.onrender.com</a>
13	<span style="color: gold;">●</span>	Debug Endpoint	<a href="https://juice-shop-vsqa1.onrender.com/debug">https://juice-shop-vsqa1.onrender.com/debug</a>
14	<span style="color: gold;">●</span>	Debug Endpoint	<a href="https://juice-shop-vsqa1.onrender.com/trace">https://juice-shop-vsqa1.onrender.com/trace</a>
15	<span style="color: gold;">●</span>	Debug Endpoint	<a href="https://juice-shop-vsqa1.onrender.com/actuator">https://juice-shop-vsqa1.onrender.com/actuator</a>
16	<span style="color: gold;">●</span>	Debug Endpoint	<a href="https://juice-shop-vsqa1.onrender.com/phpinfo.php">https://juice-shop-vsqa1.onrender.com/phpinfo.php</a>
17	<span style="color: gold;">●</span>	Debug Endpoint	<a href="https://juice-shop-vsqa1.onrender.com/server-status">https://juice-shop-vsqa1.onrender.com/server-status</a>
18	<span style="color: gold;">●</span>	Debug Endpoint	<a href="https://juice-shop-vsqa1.onrender.com/console">https://juice-shop-vsqa1.onrender.com/console</a>
19	<span style="color: gold;">●</span>	Debug Endpoint	<a href="https://juice-shop-vsqa1.onrender.com/shell">https://juice-shop-vsqa1.onrender.com/shell</a>
20	<span style="color: gold;">●</span>	Debug Endpoint	<a href="https://juice-shop-vsqa1.onrender.com/admin/config">https://juice-shop-vsqa1.onrender.com/admin/config</a>
21	<span style="color: gold;">●</span>	CORS Misconfiguration	<a href="https://juice-shop-vsqa1.onrender.com">https://juice-shop-vsqa1.onrender.com</a>
22	<span style="color: gold;">●</span>	Vulnerable Component	<a href="https://juice-shop-vsqa1.onrender.com/.env">https://juice-shop-vsqa1.onrender.com/.env</a>
23	<span style="color: gold;">●</span>	Vulnerable Component	<a href="https://juice-shop-vsqa1.onrender.com/admin">https://juice-shop-vsqa1.onrender.com/admin</a>
24	<span style="color: gold;">●</span>	Vulnerable Component	<a href="https://juice-shop-vsqa1.onrender.com/login">https://juice-shop-vsqa1.onrender.com/login</a>
25	<span style="color: gold;">●</span>	Vulnerable Component	<a href="https://juice-shop-vsqa1.onrender.com/.git/HEAD">https://juice-shop-vsqa1.onrender.com/.git/HEAD</a>
26	<span style="color: gold;">●</span>	Vulnerable Component	<a href="https://juice-shop-vsqa1.onrender.com/swagger.json">https://juice-shop-vsqa1.onrender.com/swagger.json</a>
27	<span style="color: blue;">●</span>	Missing Security Header	<a href="https://juice-shop-vsqa1.onrender.com">https://juice-shop-vsqa1.onrender.com</a>
28	<span style="color: blue;">●</span>	Missing Security Header	<a href="https://juice-shop-vsqa1.onrender.com">https://juice-shop-vsqa1.onrender.com</a>
29	<span style="color: blue;">●</span>	Missing Security Header	<a href="https://juice-shop-vsqa1.onrender.com">https://juice-shop-vsqa1.onrender.com</a>
30	<span style="color: blue;">●</span>	Missing Security Header	<a href="https://juice-shop-vsqa1.onrender.com">https://juice-shop-vsqa1.onrender.com</a>
31	<span style="color: blue;">●</span>	Missing Security Header	<a href="https://juice-shop-vsqa1.onrender.com">https://juice-shop-vsqa1.onrender.com</a>
32	<span style="color: blue;">●</span>	Missing Security Header	<a href="https://juice-shop-vsqa1.onrender.com">https://juice-shop-vsqa1.onrender.com</a>
33	<span style="color: blue;">●</span>	Missing Security Header	<a href="https://juice-shop-vsqa1.onrender.com">https://juice-shop-vsqa1.onrender.com</a>
34	<span style="color: blue;">●</span>	Missing Security Header	<a href="https://juice-shop-vsqa1.onrender.com">https://juice-shop-vsqa1.onrender.com</a>
35	<span style="color: blue;">●</span>	Missing Security Header	<a href="https://juice-shop-vsqa1.onrender.com">https://juice-shop-vsqa1.onrender.com</a>
36	<span style="color: blue;">●</span>	Missing SRI	<a href="https://juice-shop-vsqa1.onrender.com/.env">https://juice-shop-vsqa1.onrender.com/.env</a>
37	<span style="color: blue;">●</span>	Missing SRI	<a href="https://juice-shop-vsqa1.onrender.com/.env">https://juice-shop-vsqa1.onrender.com/.env</a>
38	<span style="color: blue;">●</span>	Missing SRI	<a href="https://juice-shop-vsqa1.onrender.com/.env">https://juice-shop-vsqa1.onrender.com/.env</a>
39	<span style="color: blue;">●</span>	Missing SRI	<a href="https://juice-shop-vsqa1.onrender.com/admin">https://juice-shop-vsqa1.onrender.com/admin</a>

#	Sev	Type	Endpoint
40	●	Missing SRI	https://juice-shop-vsqa1.onrender.com/admin
41	●	Missing SRI	https://juice-shop-vsqa1.onrender.com/admin
42	●	Missing SRI	https://juice-shop-vsqa1.onrender.com/login
43	●	Missing SRI	https://juice-shop-vsqa1.onrender.com/login
44	●	Missing SRI	https://juice-shop-vsqa1.onrender.com/login
45	●	Missing SRI	https://juice-shop-vsqa1.onrender.com/.git/HEAD
46	●	Missing SRI	https://juice-shop-vsqa1.onrender.com/.git/HEAD
47	●	Missing SRI	https://juice-shop-vsqa1.onrender.com/.git/HEAD
48	●	Missing SRI	https://juice-shop-vsqa1.onrender.com/swagger.json
49	●	Missing SRI	https://juice-shop-vsqa1.onrender.com/swagger.json
50	●	Missing SRI	https://juice-shop-vsqa1.onrender.com/swagger.json
51	●	Logging Failure	https://juice-shop-vsqa1.onrender.com/logs
52	●	Logging Failure	https://juice-shop-vsqa1.onrender.com/log
53	●	Logging Failure	https://juice-shop-vsqa1.onrender.com/error.log
54	●	Logging Failure	https://juice-shop-vsqa1.onrender.com/debug.log
55	●	Logging Failure	https://juice-shop-vsqa1.onrender.com/app.log
56	●	Logging Failure	https://juice-shop-vsqa1.onrender.com/access.log
57	●	Logging Failure	https://juice-shop-vsqa1.onrender.com/storage/logs/...
58	●	Logging Failure	https://juice-shop-vsqa1.onrender.com/logs/error.lo...
59	●	Logging Failure	https://juice-shop-vsqa1.onrender.com/npm-debug.log
60	●	Logging Failure	https://juice-shop-vsqa1.onrender.com/yarn-error.lo...
61	●	Logging Failure	https://juice-shop-vsqa1.onrender.com/.logs
62	●	Logging Failure	https://juice-shop-vsqa1.onrender.com/.log
63	●	Logging Failure	https://juice-shop-vsqa1.onrender.com

## Technical Evidence & Remediation

### 1. Broken Access Control [ ● High]

**Description:** Admin path "/admin" accessible without authentication

Endpoint	Proof / Evidence
https://juice-shop-vsqa1.onrender.com/admin	HTTP 200 response on /admin
https://juice-shop-vsqa1.onrender.com/administrator	HTTP 200 response on /administrator
https://juice-shop-vsqa1.onrender.com/admin/dashboard	HTTP 200 response on /admin/dashboard
https://juice-shop-vsqa1.onrender.com/panel	HTTP 200 response on /panel
https://juice-shop-vsqa1.onrender.com/manage	HTTP 200 response on /manage
https://juice-shop-vsqa1.onrender.com/backend	HTTP 200 response on /backend

**Fix & Simulation: Remediation:** Restrict access to /admin endpoint by implementing role-based access control (RBAC) checks.

**How it was confirmed:** Unauthorized access to /admin endpoint returned HTTP 200 response.

**How to simulate:**

```
curl -I https://juice-shop-vsqa1.onrender.com/admin
```

**Code Fix (Node.js/Express):**

```
app.get('/admin', ensureAuthenticated, ensureAdminRole, (req, res) => {
  // Admin-only content
});
```

**Middleware:**

```
function ensureAdminRole(req, res, next) {
  if (req.user && req.user.role === 'admin') {
    return next();
  }
  res.status(403).send('Forbidden');
}
```

### 2. Cryptographic Failure (HSTS) [ ● High]

**Description:** Missing HTTP Strict Transport Security (HSTS) header

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com	No Strict-Transport-Security header in response

**Fix & Simulation: Remediation:** Add HSTS header with max-age and includeSubDomains directives.

**How it was confirmed:** `curl -I https://juice-shop-vsqli.onrender.com` showed no `Strict-Transport-Security` header.

**How to simulate:** `curl -I https://juice-shop-vsqli.onrender.com` should return `Strict-Transport-Security: max-age=31536000; includeSubDomains`.

**Code Fix (Node.js/Express):**

```
app.use((req, res, next) => {
  res.setHeader("Strict-Transport-Security", "max-age=31536000; includeSubDomains");
  next();
});
```

### 3. Information Disclosure [🟡 Medium]

**Description:** Sensitive path `/.env` is accessible (HTTP 200)

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com/.env	Status: 200
https://juice-shop-vsqli.onrender.com/admin	Status: 200
https://juice-shop-vsqli.onrender.com/.git/HEAD	Status: 200

**Fix & Simulation: Remediation:** Restrict access to `.env` file by adding a rule to your web server configuration to deny access to this file.

**How it was confirmed:** Accessing `https://juice-shop-vsqli.onrender.com/.env` returned a 200 status code, indicating the file was served.

**How to simulate:**

```
curl -I https://juice-shop-vsqli.onrender.com/.env
```

**Code Fix (for Node.js/Express):**

```
app.get('/\.env', (req, res) => {
  res.status(403).send('Access forbidden');
});
```

### 4. Information Disclosure (server) [🟡 Medium]

**Description:** Server information disclosure via server header

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com	server: cloudflare

**Fix & Simulation: Remediation:** Implement server-side request validation and disable server info headers.

**How it was confirmed:** Server info was disclosed in the response headers.

**How to simulate:**

```
curl -I https://juice-shop-vsqli.onrender.com
```

**Code fix (Node.js/Express):**

```
app.disable('x-powered-by');
app.use((req, res, next) => {
  res.removeHeader('Server');
  next();
});
```

### 5. CORS Misconfiguration (CORS) [🟡 Medium]

**Description:** Wildcard CORS origin

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com	*

**Fix & Simulation: Remediation:** Set `Access-Control-Allow-Origin` to `null` or specific domains, not `*`.

**How it was confirmed:** Curl request to the endpoint returned `Access-Control-Allow-Origin: *` in the response headers.

**How to simulate:**

```
curl -I https://juice-shop-vsqli.onrender.com
```

**Code Fix (Node.js/Express):**

```
app.use((req, res, next) => {
  res.setHeader('Access-Control-Allow-Origin', 'https://yourdomain.com');
  next();
});
```

### 6. Debug Endpoint [🟡 Medium]

**Description:** Debug/admin endpoint accessible: /debug

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com/debug	HTTP 200 on /debug
https://juice-shop-vsqli.onrender.com/trace	HTTP 200 on /trace
https://juice-shop-vsqli.onrender.com/actuator	HTTP 200 on /actuator
https://juice-shop-vsqli.onrender.com/phpinfo.php	HTTP 200 on /phpinfo.php
https://juice-shop-vsqli.onrender.com/server-status	HTTP 200 on /server-status
https://juice-shop-vsqli.onrender.com/console	HTTP 200 on /console
...	+ 2 more

**Fix & Simulation: Remediation:** Remove or restrict access to the /debug endpoint.

**How it was confirmed:** curl -I https://juice-shop-vsqli.onrender.com/debug returned HTTP 200.

**How to simulate:** curl -I https://juice-shop-vsqli.onrender.com/debug

**Code fix (Node.js/Express):**

```
// Remove or comment out the following line in your route configuration:
app.get('/debug', debugEndpoint); // Remove this line or restrict access
```

## 7. CORS Misconfiguration (Access-Control-Allow-Origin) [🟡 Medium]

**Description:** CORS policy reflects arbitrary origin or uses wildcard

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com	Access-Control-Allow-Origin: * for Origin: https://evil-attacker.com

**Fix & Simulation: Remediation:** Restrict Access-Control-Allow-Origin to specific trusted domains.

**How it was confirmed:** Curl request to the endpoint with Origin: https://evil-attacker.com header returned Access-Control-Allow-Origin: \*.

**How to simulate:**

```
curl -I -H "Origin: https://evil-attacker.com" https://juice-shop-vsqli.onrender.com
```

**Code fix (Node.js/Express):**

```
app.use((req, res, next) => {
  const allowedOrigins = ['https://trusted-domain.com'];
  const origin = req.headers.origin;
  if (allowedOrigins.includes(origin)) {
    res.setHeader('Access-Control-Allow-Origin', origin);
  }
  next();
});
```

## 8. Vulnerable Component (jQuery) [🟡 Medium]

**Description:** jQuery v2.2.4 detected in page - jQuery < 3.0 has XSS vulnerabilities (CVE-2020-11022)

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com/.env	Pattern matched in response body
https://juice-shop-vsqli.onrender.com/admin	Pattern matched in response body
https://juice-shop-vsqli.onrender.com/login	Pattern matched in response body
https://juice-shop-vsqli.onrender.com/.git/HEAD	Pattern matched in response body
https://juice-shop-vsqli.onrender.com/swagger.json	Pattern matched in response body

**Fix & Simulation: Remediation:** Upgrade jQuery to version 3.5.0 or later.

**How it was confirmed:** Pattern "jquery" matched in response body with version < 3.5.0.

**How to simulate:**

```
curl -I https://juice-shop-vsqli.onrender.com/.env | grep -i "jquery"
```

**Code Fix (JavaScript):**

```
// Update jQuery reference in your HTML or JS files
<script src="https://code.jquery.com/jquery-3.5.1.min.js"></script>
```

## 9. Missing Security Header (strict-transport-security) [🟢 Low]

**Description:** Missing security header: HSTS (HTTP Strict Transport Security)

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com	Header "strict-transport-security" not present in response

**Fix & Simulation: Remediation:** Add Strict-Transport-Security: max-age=31536000; includeSubDomains; preload header.

**How it was confirmed:** Checked response headers using `curl -I https://juice-shop-vsqli.onrender.com`.

**How to simulate:** `curl -I https://juice-shop-vsqli.onrender.com | grep "Strict-Transport-Security"`

**Code Fix:** For Node.js/Express:

```
app.use((req, res, next) => {
  res.setHeader("Strict-Transport-Security", "max-age=31536000; includeSubDomains; preload");
  next();
});
```

## 10. Missing Security Header (content-security-policy) [ ● Low]

**Description:** Missing security header: CSP (Content Security Policy)

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com	Header "content-security-policy" not present in response

**Fix & Simulation: Remediation:** Add Content-Security-Policy header to server responses.

**How it was confirmed:** `curl -I https://juice-shop-vsqli.onrender.com | grep -i "content-security-policy"`

**How to simulate:** `curl -H "Content-Security-Policy: default-src 'self'" https://juice-shop-vsqli.onrender.com`

**Code Fix (Node.js/Express):**

```
app.use((req, res, next) => {
  res.setHeader("Content-Security-Policy", "default-src 'self'");
  next();
});
```

## 11. Missing Security Header (x-xss-protection) [ ● Low]

**Description:** Missing security header: X-XSS-Protection (XSS filter)

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com	Header "x-xss-protection" not present in response

**Fix & Simulation: Remediation:** Add X-XSS-Protection: 1; mode=block header.

**How it was confirmed:** `curl -I https://juice-shop-vsqli.onrender.com` did not return x-xss-protection header.

**How to simulate:** `curl -H "X-XSS-Protection: 1; mode=block" -I https://juice-shop-vsqli.onrender.com`

**Code Fix (Node.js/Express):**

```
app.use((req, res, next) => {
  res.setHeader("X-XSS-Protection", "1; mode=block");
  next();
});
```

## 12. Missing Security Header (referrer-policy) [ ● Low]

**Description:** Missing security header: Referrer-Policy (Controls referrer information)

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com	Header "referrer-policy" not present in response

**Fix & Simulation: Remediation:** Add Referrer-Policy header to server responses.

**How it was confirmed:** Checked response headers using `curl -I https://juice-shop-vsqli.onrender.com`.

**How to simulate:**

`curl -I -H "Referer: https://example.com" https://juice-shop-vsqli.onrender.com`

**Code Fix (Node.js/Express):**

```
app.use((req, res, next) => {
  res.setHeader('Referrer-Policy', 'strict-origin-when-cross-origin');
  next();
});
```

## 13. Missing Security Header (permissions-policy) [ ● Low]

**Description:** Missing security header: Permissions-Policy (Controls browser features)

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com	Header "permissions-policy" not present in response

**Fix & Simulation: Remediation:** Add the Permissions-Policy header to restrict browser features.

**How it was confirmed:** `curl -I https://juice-shop-vsqli.onrender.com` did not return a Permissions-Policy header.

**How to simulate:** `curl -H "Permissions-Policy: geolocation=(), camera=(), microphone=()" https://juice-shop-vsqli.onrender.com`

**Code Fix:** For Node.js/Express:

```
app.use((req, res, next) => {
  res.setHeader("Permissions-Policy", "geolocation=(), camera=(), microphone=()");
  next();
});
```

#### 14. Missing Security Header (cross-origin-embedder-policy) [ ● Low]

**Description:** Missing security header: COEP (Cross-Origin Embedder Policy)

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com	Header "cross-origin-embedder-policy" not present in response

**Fix & Simulation: Remediation:** Add `Cross-Origin-Embedder-Policy: require-corp` header.

**How it was confirmed:** Checked response headers with `curl -I https://juice-shop-vsqli.onrender.com`.

**How to simulate:** `curl -I -H "Origin: https://evil.com" https://juice-shop-vsqli.onrender.com`.

**Code Fix (Node.js/Express):**

```
app.use((req, res, next) => {
  res.setHeader("Cross-Origin-Embedder-Policy", "require-corp");
  next();
});
```

#### 15. Missing Security Header (cross-origin-opener-policy) [ ● Low]

**Description:** Missing security header: COOP (Cross-Origin Opener Policy)

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com	Header "cross-origin-opener-policy" not present in response

**Fix & Simulation: Remediation:** Add `cross-origin-opener-policy: same-origin` header.

**How it was confirmed:** Checked response headers using `curl -I https://juice-shop-vsqli.onrender.com`.

**How to simulate:** `curl -I -H "Origin: https://evil.com" https://juice-shop-vsqli.onrender.com`.

**Code Fix (Node.js/Express):**

```
app.use((req, res, next) => {
  res.setHeader("cross-origin-opener-policy", "same-origin");
  next();
});
```

#### 16. Missing Security Header (cross-origin-resource-policy) [ ● Low]

**Description:** Missing security header: CORP (Cross-Origin Resource Policy)

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com	Header "cross-origin-resource-policy" not present in response

**Fix & Simulation: Remediation:** Add the `Cross-Origin-Resource-Policy` header to server responses.

**How it was confirmed:** `curl -I https://juice-shop-vsqli.onrender.com` did not return a `Cross-Origin-Resource-Policy` header.

**How to simulate:** `curl -I -H "Origin: https://example.com" https://juice-shop-vsqli.onrender.com`

**Code Fix:** For a Node.js/Express application, add the following middleware:

```
app.use((req, res, next) => {
  res.setHeader('Cross-Origin-Resource-Policy', 'same-site');
  next();
});
```

#### 17. Missing Security Header (x-permitted-cross-domain-policies) [ ● Low]

**Description:** Missing security header: X-Permitted-Cross-Domain-Policies (Restricts Flash/PDF cross-domain policy files)

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com	Header "x-permitted-cross-domain-policies" not present in response

**Fix & Simulation: Remediation:** Add the `x-permitted-cross-domain-policies` header to the server's response.

**How it was confirmed:** Checked response headers using `curl -I https://juice-shop-vsqli.onrender.com`.

**How to simulate:**

`curl -I https://juice-shop-vsqli.onrender.com | grep "x-permitted-cross-domain-policies"`

**Code Fix (Node.js/Express):**

```
app.use((req, res, next) => {
  res.setHeader("x-permitted-cross-domain-policies", "none");
  next();
});
```

18. Missing SRI (//cdnjs.cloudflare.com/ajax/libs/cookieconsent2/3.1.0/cookieconsent.min.js) [ Low]

Description: External script loaded without Subresource Integrity (SRI)

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com/.env	Insecure tag: <script src="//cdnjs.cloudflare.com/ajax/libs/cookiecons...
https://juice-shop-vsqli.onrender.com/admin	Insecure tag: <script src="//cdnjs.cloudflare.com/ajax/libs/cookiecons...
https://juice-shop-vsqli.onrender.com/login	Insecure tag: <script src="//cdnjs.cloudflare.com/ajax/libs/cookiecons...
https://juice-shop-vsqli.onrender.com/.git/HEAD	Insecure tag: <script src="//cdnjs.cloudflare.com/ajax/libs/cookiecons...
https://juice-shop-vsqli.onrender.com/swagger.json	Insecure tag: <script src="//cdnjs.cloudflare.com/ajax/libs/cookiecons...

**Fix & Simulation: Remediation:** Add SRI to the script tag: <script src="//cdnjs.cloudflare.com/ajax/libs/cookieconsent2/3.1.0/cookieconsent.min.js" integrity="sha384-..." crossorigin="anonymous"></script>

**How it was confirmed:** Inspected the source code and found the script tag without SRI.

**How to simulate:**

```
curl -I https://cdnjs.cloudflare.com/ajax/libs/cookieconsent2/3.1.0/cookieconsent.min.js
```

**Code Fix:**

```
<script src="//cdnjs.cloudflare.com/ajax/libs/cookieconsent2/3.1.0/cookieconsent.min.js" integrity="sha384-..." crossorigin="anonymous"></script>
```

19. Missing SRI (//cdnjs.cloudflare.com/ajax/libs/jquery/2.2.4/jquery.min.js) [ Low]

Description: External script loaded without Subresource Integrity (SRI)

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com/.env	Insecure tag: <script src="//cdnjs.cloudflare.com/ajax/libs/jquery/2.2...
https://juice-shop-vsqli.onrender.com/admin	Insecure tag: <script src="//cdnjs.cloudflare.com/ajax/libs/jquery/2.2...
https://juice-shop-vsqli.onrender.com/login	Insecure tag: <script src="//cdnjs.cloudflare.com/ajax/libs/jquery/2.2...
https://juice-shop-vsqli.onrender.com/.git/HEAD	Insecure tag: <script src="//cdnjs.cloudflare.com/ajax/libs/jquery/2.2...
https://juice-shop-vsqli.onrender.com/swagger.json	Insecure tag: <script src="//cdnjs.cloudflare.com/ajax/libs/jquery/2.2...

**Fix & Simulation: Remediation:** Add SRI to the script tag: <script src="//cdnjs.cloudflare.com/ajax/libs/jquery/2.2.4/jquery.min.js" integrity="sha384-KyZXEAg3QhLmpG8r+Knujs15/84L17twkPUJLp1QGdbuzwx9D9dF0gg62V0I4f7Z" crossorigin="anonymous"></script> .

**How it was confirmed:** Inspected the source code and found the script tag without SRI.

**How to simulate:**

```
curl -I https://juice-shop-vsqli.onrender.com/.env | grep -i "Content-Security-Policy"
```

**Code Fix:**

```
// Update the script tag in your HTML file
<script src="//cdnjs.cloudflare.com/ajax/libs/jquery/2.2.4/jquery.min.js" integrity="sha384-KyZXEAg3QhLmpG8r+Knujs15/84L17twkPUJLp1QGdbuzwx9D9dF0gg62V0I4f7Z" crc
```

20. Missing SRI (//cdnjs.cloudflare.com/ajax/libs/cookieconsent2/3.1.0/cookieconsent.min.css) [ Low]

Description: External stylesheet loaded without SRI

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com/.env	<link href="//cdnjs.cloudflare.com/ajax/libs/cookieconsent2/3.1.0/cook...
https://juice-shop-vsqli.onrender.com/admin	<link href="//cdnjs.cloudflare.com/ajax/libs/cookieconsent2/3.1.0/cook...
https://juice-shop-vsqli.onrender.com/login	<link href="//cdnjs.cloudflare.com/ajax/libs/cookieconsent2/3.1.0/cook...
https://juice-shop-vsqli.onrender.com/.git/HEAD	<link href="//cdnjs.cloudflare.com/ajax/libs/cookieconsent2/3.1.0/cook...
https://juice-shop-vsqli.onrender.com/swagger.json	<link href="//cdnjs.cloudflare.com/ajax/libs/cookieconsent2/3.1.0/cook...

**Fix & Simulation: Remediation:** Add SRI hash to the script tag.

**How it was confirmed:** Inspected the HTML source and found the missing integrity attribute in the cookieconsent2 CSS link.

**How to simulate:**

```
curl -I https://cdnjs.cloudflare.com/ajax/libs/cookieconsent2/3.1.0/cookieconsent.min.css
```

**Code Fix:**

```
<link href="//cdnjs.cloudflare.com/ajax/libs/cookieconsent2/3.1.0/cookieconsent.min.css"
integrity="sha384-..." crossorigin="anonymous">
```

21. Logging Failure [ Low]

Description: Potential log file accessible at /logs

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com/logs	HTTP 200 with 75055 bytes of content

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com/log	HTTP 200 with 75055 bytes of content
https://juice-shop-vsqli.onrender.com/error.log	HTTP 200 with 75055 bytes of content
https://juice-shop-vsqli.onrender.com/debug.log	HTTP 200 with 75055 bytes of content
https://juice-shop-vsqli.onrender.com/app.log	HTTP 200 with 75055 bytes of content
https://juice-shop-vsqli.onrender.com/access.log	HTTP 200 with 75055 bytes of content
...	+ 6 more

**Fix & Simulation: Remediation:** Implement proper logging for security-relevant events.

**How it was confirmed:** Accessed `/logs` endpoint and received a non-empty response.

**How to simulate:**

```
curl -I https://juice-shop-vsqli.onrender.com/logs
```

**Code Fix (Node.js/Express):**

```
// Add this middleware to your Express app
app.use((req, res, next) => {
  const logData = {
    method: req.method,
    path: req.path,
    timestamp: new Date().toISOString(),
    // Add other relevant data
  };
  console.log(logData); // Or use a proper logging library
  next();
});
```

## 22. Logging Failure (Rate Limiting) [ Low]

**Description:** No rate limiting detected on rapid requests

Endpoint	Proof / Evidence
https://juice-shop-vsqli.onrender.com	5 rapid requests all returned non-429 responses

**Fix & Simulation: Remediation:** Implement rate limiting middleware to restrict requests.

**How it was confirmed:** 5 rapid requests via curl returned non-429 responses.

**How to simulate:**

```
for i in {1..5}; do curl -s -o /dev/null -w "%{http_code}" https://juice-shop-vsqli.onrender.com; done
```

**Code Fix (Express.js):**

```
const rateLimit = require('express-rate-limit');
app.use(rateLimit({
  windowMs: 15 * 60 * 1000, // 15 minutes
  max: 100 // limit each IP to 100 requests per windowMs
}));
```

## Key Recommendations

- 7 high-severity issues should be resolved before deployment.
- Add all recommended security headers (CSP, HSTS, X-Frame-Options, etc.).

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