# VULNERABILITY ASSESSMENT REPORT

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**Date:** 21/02/2026
**Assignment:** Future Interns Task 01

**Website tested:** testphp.vulnweb.com

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# EXECUTIVE SUMMARY

### Overview

This report details the findings of a vulnerability assessment conducted on testphp.vulnweb.com. The assessment aimed to identify potential security weaknesses that could be exploited by attackers. This report outlines the identified vulnerabilities, their potential impact, and recommended remediation steps.

### Summary of Key Findings

| Risk Level | Number of Findings | Examples |
|---|---|---|

| | | |
|---|---|---|
| High | 2 | SQL Injection, Default Admin Credentials |
| Medium | 3 | Missing Anti-CSRF Tokens, Exposed CVS Directory, Content Security Policy (CSP) Header Not Set |

## CRITICAL RISKS IDENTIFIED

1. **SQL Injection (High Risk)**
   An attacker can manipulate database queries through the cat parameter in listproducts.php, potentially leading to data theft, authentication bypass, or complete database compromise.
2. **Default Admin Credentials (High Risk)**
   The admin panel is accessible using default credentials (test), allowing unauthorized access to sensitive user data including names, email addresses, and credit card information.
3. **Missing Anti-CSRF Tokens (Medium Risk)**
   Forms lack CSRF protection, making users vulnerable to having unintended actions performed on their behalf.
4. **Exposed CVS Directory (Medium Risk)**
   Version control metadata is publicly accessible, revealing internal file structure and potentially sensitive information about the application's development history.
5. **Content Security Policy (CSP) Header Not Set (Medium risk)**
   The application does not define a Content Security Policy (CSP) header, allowing the browser to load resources from untrusted sources.

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# SCOPE & METHODOLOGY

- **Target URL:** testphp.vulnweb.com
- **Assessment Type:** External Vulnerability Assessment
- **Date of Assessment:** 21/02/2026
- **Tools Used:** OWASP ZAP, Browser Dev tools
- **Testing Approach:** Combination of automated scanning and manual verification

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**Methodology Overview**

**Phase 1: Reconnaissance**

- Initial exploration of the application to understand its structure and functionality
- Manual browsing of all accessible pages including homepage, product listings, guestbook, and admin areas
- Identification of input points (forms, URL parameters)

**Phase 2: Automated Scanning**

- Configuration of OWASP ZAP as a local proxy
- Automated spidering to discover endpoints
- Active scanning for:
    - SQL Injection
    - Cross-Site Scripting (XSS)
    - Cross-Site Request Forgery (CSRF)
    - Security misconfigurations
    - Information disclosure

**Phase 3: Manual Verification**

- Manual confirmation of automated findings
- Exploitation attempts to assess impact
- Logic and access control testing

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**Testing Standards Referenced**

- OWASP Top 10 v2.17.0
- OWASP Testing Guide v4.0
- CWE (Common Weakness Enumeration)

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# RISK CLASSIFICATION

| Risk Rating | Description | Impact | Likelihood |
|---|---|---|---|

| | | | |
|---|---|---|---|
| High | Critical vulnerability that can be easily exploited | Severe data breach, system compromise | Highly likely to be exploited |
| Medium | Vulnerability that can be exploited under certain conditions | Moderate data breach partial system compromise | Likely to be exploited |
| Low | Minor vulnerability with limited impact | Minimal data breach, no system compromise | Unlikely to be exploited |

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### Limitations

- Application is deliberately vulnerable
- No advanced privilege escalation beyond default credentials
- External testing only
- No DoS attacks performed

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## Finding 1: SQL Injection

**Risk Level:** HIGH
**Location:** http://testphp.vulnweb.com/listproducts.php?cat=1
**Parameter:** cat
**CWE:** CWE-89

### Description

The application fails to properly validate user input passed through the cat parameter. Injecting a single quote causes a SQL error, confirming unsensitized input.

### Business Impact

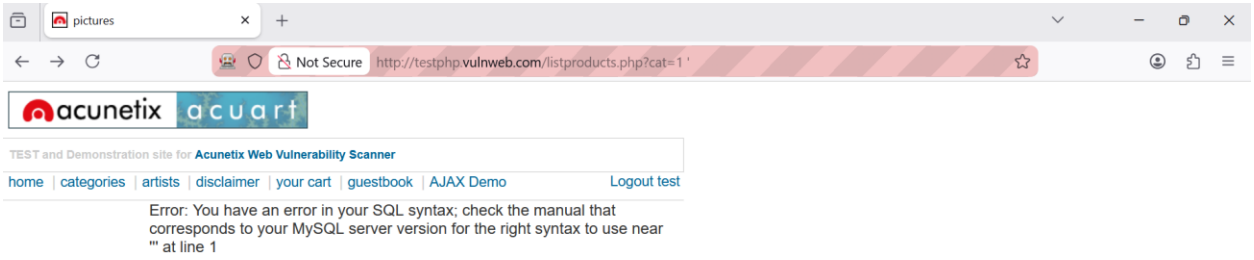
- Data breach
- Authentication bypass
- Data manipulation
- Privilege escalation
- Regulatory violations

### Remediation

1. Parameterized queries

2. Input validation
3. Least privilege
4. Error handling
5. Web Application Firewall

**Evidence:**
Figure 1: SQL error message after injection

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## FINDING 2: DEFAULT ADMIN CREDENTIALS

**Risk Level:** HIGH
**Location:** http://testphp.vulnweb.com/admin/
**Credentials:** test / test
**CWE:** CWE-798

### Description

Admin panel accepts default credentials, granting access to sensitive data.

### Business Impact

- Complete system compromise
- Mass data theft
- Identity fraud
- PCI DSS violations

- Legal liability

## Remediation

- Change default credentials immediately
- Implement MFA
- Restrict admin access
- Secure admin panel

## Evidence:

Figure 2: Admin login page with default login credentials

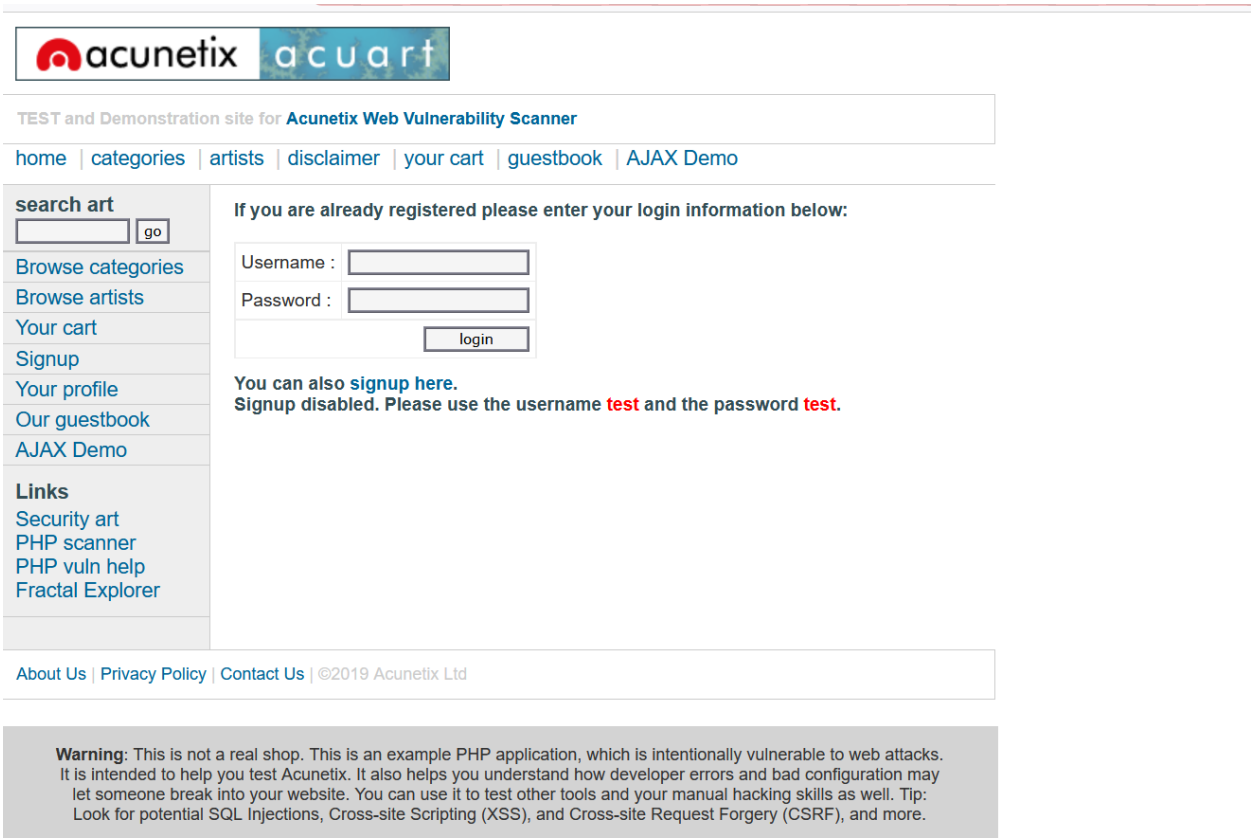
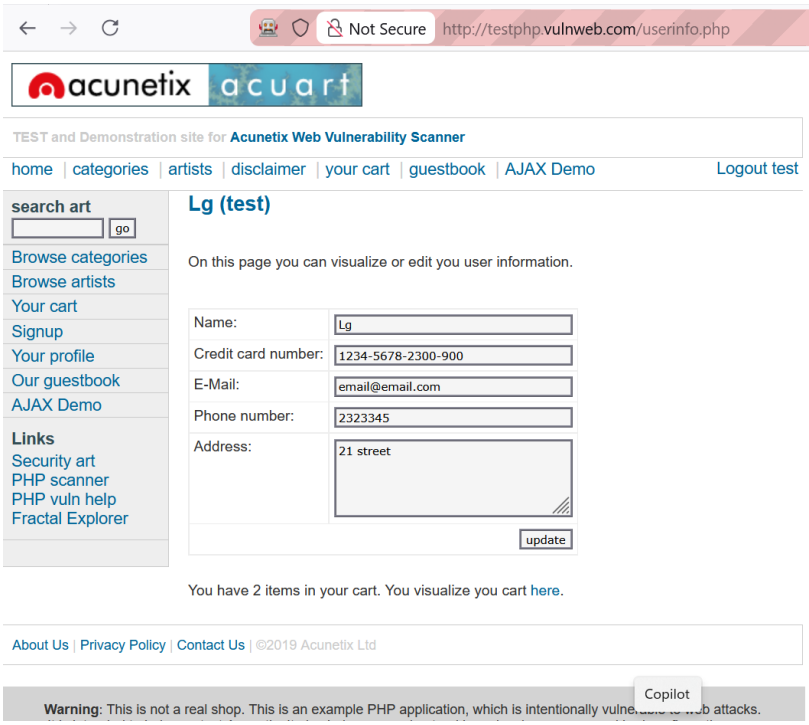



Figure 3: Admin dashboard displaying customer sensitive information

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## FINDING 3: EXPOSED CVS DIRECTORY

**Risk Level:** MEDIUM
**Location:** http://testphp.vulnweb.com/CVS/
**CWE:** CWE-548

### Description

CVS version control metadata is publicly accessible.

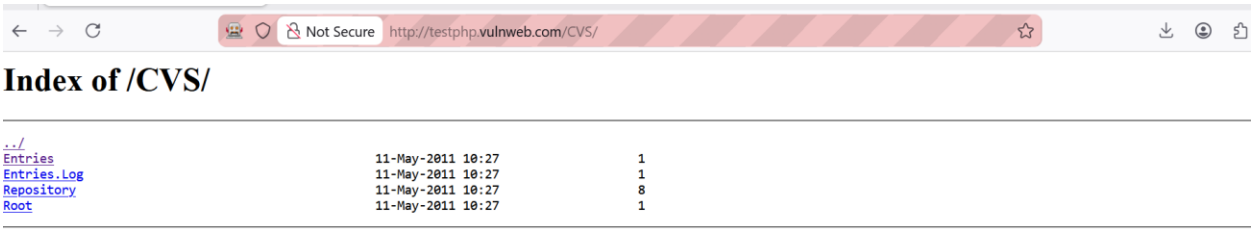
### Business Impact

- Attack surface mapping
- Version disclosure
- Social engineering
- Potential source code exposure

### Remediation

- Block /CVS/ access
- Remove VCS directories
- Disable directory listing

**Evidence:**
Figure 4: Exposed CVS directory

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## FINDING 4: MISSING ANTI-CSRF TOKENS

**Risk Level:** MEDIUM
**Location:** Multiple forms
**CWE:** CWE-352

### Description

Forms lack CSRF protection, allowing forged requests.

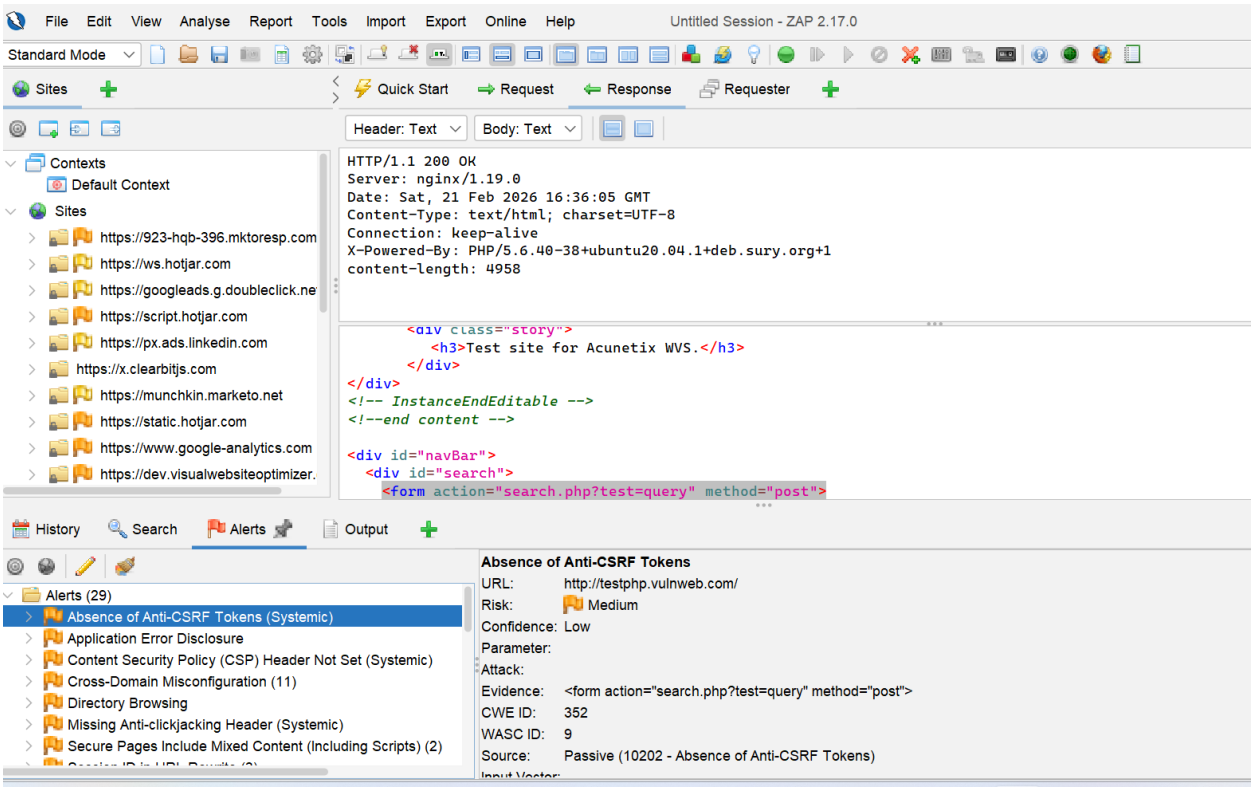
### Business Impact

- Unauthorized actions
- Privilege escalation
- Chained attacks

### Remediation

- Implement CSRF tokens
- SameSite cookies
- Framework protections
- Verify Origin headers

**Evidence:**
Figure 5: OWASP ZAP alert

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## FINDING 5: CONTENT SECURITY POLICY (CSP) HEADER NOT SET

**Risk level:** Medium
**OWASP Category:** A05 – Security Misconfiguration

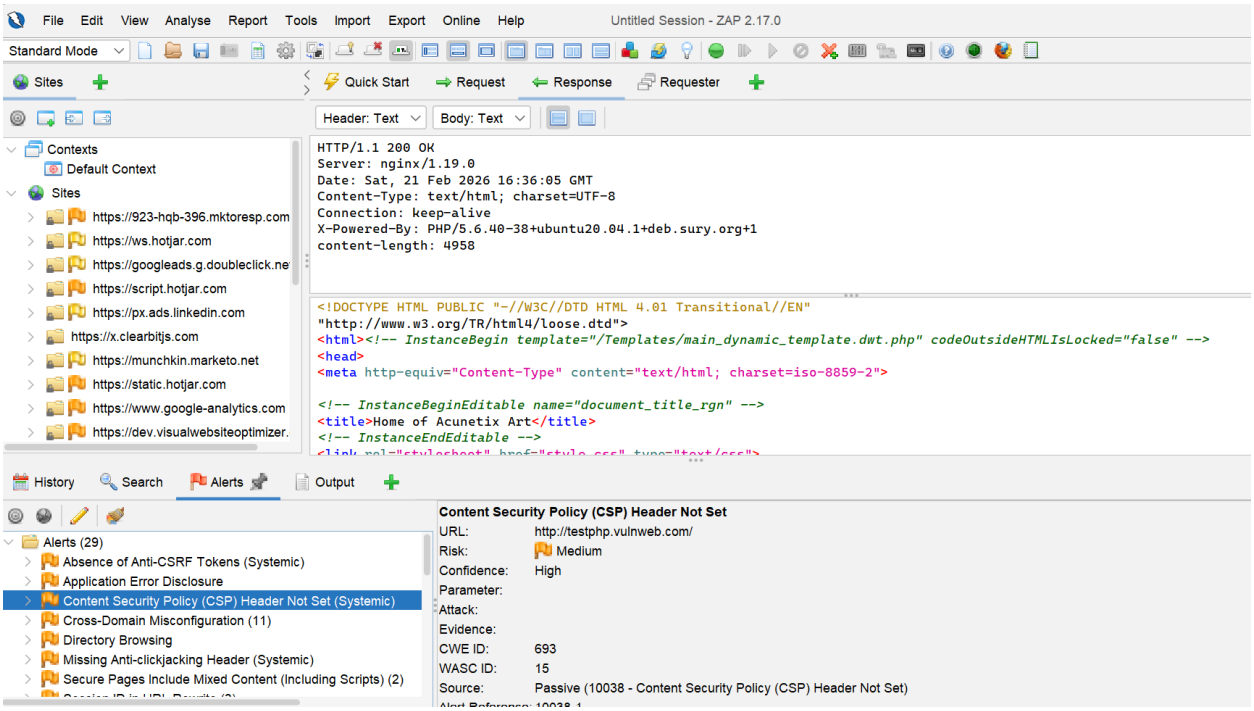
**Description:**
The application does not define a Content Security Policy (CSP) header, allowing the browser to load resources from untrusted sources.

**Business Impact:**
This increases the risk of Cross-Site Scripting (XSS) and malicious content injection.

**Recommendation:**
Configure a strict Content Security Policy to restrict allowed sources for scripts, styles, and other resources.

**Evidence:**
HTTP response headers were observed to be missing the Content-Security-Policy header.

Figure 6: OWASP ZAP Alert

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## Business Impact

If exploited, these vulnerabilities could lead to:

- Data Breach: Exposure of customer personal and financial information
- Account Takeover: Attackers gaining administrative access
- Reputation Damage: Loss of customer trust and potential regulatory penalties
- Financial Loss: Fraudulent transactions or remediation costs

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## OVERALL RISK ASSESSMENT

- **Overall Risk Level:** HIGH
- **Confidence:** High
- **Business Impact:** Critical

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## PRIORITIZED REMEDIATION ROADMAP

**Immediate (24–48 Hours)**

1. Change default credentials
2. Fix SQL injection

**Short-Term (1–2 Weeks)**

3. Block CVS directory
4. Implement CSRF tokens
5. Configure a strict Content Security Policy

**Long-Term**

- Security training
- Automated scanning
- Regular assessments
- Penetration testing

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## RECOMMENDATIONS

Immediate actions should include:

- Fixing the SQL injection vulnerability by implementing parameterized queries
- Changing default admin credentials and restricting access to the admin panel
- Implementing anti-CSRF tokens across all forms
- Restricting public access to version control directories

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## CONCLUSION

While this application is intentionally vulnerable for testing purposes, the findings demonstrate common real-world security gaps that must be addressed in production environments. Addressing these issues will significantly improve the application's security posture.

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## Final Remarks

The vulnerabilities identified mirror real-world security issues found in production systems. Security must be treated as an ongoing process involving testing, secure development practices, and continuous improvement.