TECHNICAL REPORT



Passive Security Audit

for Web Applications

The Acme Corporation Ltd.



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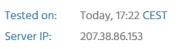
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Web Application Security Test

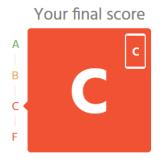
Summary of theacmecorporation.org [Desktop Version] Website Security Test



Reverse DNS: web594.webfaction.com

Location: Wildwood ■

Client: Desktop Browser







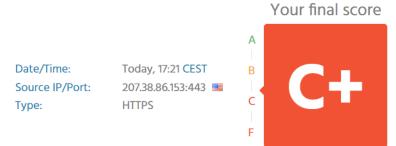






Secure Socket Layer Security Test

Summary of theacmecorporation.org:443 (HTTPS) SSL Security Test















Web Application

PASSIVE SECURITY AUDIT



Summary of theacmecorporation.org [Desktop Version] Website Security Test



Web Server Security

HTTP RESPONSE	REDIRECT TO	NPN	ALPN
200 OK	N/A	N/A	N/A
CONTENT ENCODING	SERVER SIGNATURE	WAF	LOCATION
None	nginx	No WAF detected	server4you Inc.

Software Security Analysis

A non-intrusive CMS fingerprinting technology thoroughly crawls some parts of the CMS to fingerprint its version in the most accurate manner:

FINGERPRINTED CMS & VULNERABILITIES

No CMS were fingerprinted on the website.

Information

FINGERPRINTED CMS COMPONENTS & VULNERABILITIES



jQuery 1.11.1

The fingerprinted component version is outdated and vulnerable to publicly known vulnerabilities. Urgently update to the most recent version **3.5.1**.

CVSSv3.0 Score	Vulnerability CVE-IDCVE	Vulnerability TypeType
5.5 Medium	CVE-2020-11022	CWE-79 — Cross-site scripting
5.3 Medium	CVE-2015-9251	CWE-79 — Cross-site scripting
4.8 Medium	CVE-2019-11358	CWE-400 — Prototype pollution
4.2 Medium	CVE-2020-11023	CWE-79 — Cross-site scripting

Datatables 1 10 6

The fingerprinted component version is outdated and vulnerable to publicly known vulnerabilities. Urgently update to the most recent version **1.10.20**.

CVSSv3.0 Score	Vulnerability CVE-IDCVE	Vulnerability TypeType
5.3 Medium	CVE-2015-6584	CWE-79 — Cross-site scripting

Twitter-bootstrap 3.3.4

The fingerprinted component version is outdated and vulnerable to publicly known vulnerabilities. Urgently update to the most recent version **4.5.1**.

CVSSv3.0 Score	Vulnerability CVE-IDCVE	Vulnerability TypeType
5.5 Medium	CVE-2016-10735	CWE-79 — Cross-site scripting
5.5 Medium	CVE-2018-14040	CWE-79 — Cross-site scripting
5.5 Medium	CVE-2018-14042	CWE-79 — Cross-site scripting
5.5 Medium	CVE-2018-14041	CWE-79 — Cross-site scripting
5.3 Medium	CVE-2019-8331	CWE-79 — Cross-site scripting
5.3 Medium	CVE-2018-20677	CWE-79 — Cross-site scripting
5.3 Medium	CVE-2018-20676	CWE-79 — Cross-site scripting



The component is outdated. No known security vulnerabilities found. Update to the most recent version 3.7.3.

JQuery Easing Plugin

The component is outdated. No known security vulnerabilities found. Update to the most recent version 1.4.1.

The component is outdated. No known security vulnerabilities found. Update to the most recent version 1.0.1.

The component is outdated. No known security vulnerabilities found. Update to the most recent version 1.3.8.

Animated-header 0.0.1

The fingerprinted component version is up2date, no security issues were found.

GDPR Compliance Analysis

If the website processes or stores any PII of EU residents, the following requirements of EU GDPR may apply:

PRIVACY POLICY

Privacy Policy was not found on the website or is not easily accessible.

WEBSITE SOFTWARE SECURITY

Website CMS or its components are outdated and contain known security

SSL/TLS TRAFFIC ENCRYPTION

SSL/TLS encryption is missing or insecure.

COOKIE CONFIGURATION

No cookies with potentially sensitive information seem to be sent.

Information



COOKIES DISCLAIMER

No cookies with potentially sensitive or tracking information seem to be sent.

Information

PCI DSS Compliance Analysis

If the website falls into a CDE (Cardholder Data Environment) scope, the following Requirements of PCI DSS may apply:

REQUIREMENT 6.2

Website CMS or its components seem to be outdated. Check for available updates.

Misconfiguration or weakness

REQUIREMENT 6.5

Fingerprinted website CMS or its components contain publicly known vulnerabilities (Ref. PCI DSS 6.5.1-6.5.10).

Misconfiguration or weakness

REQUIREMENT 6.6

No WAF was detected on the website. Implement a WAF to protect the website against common web attacks.

Misconfiguration or weakness



HTTP Headers Security Analysis

Some HTTP headers related to security and privacy are missing or misconfigured.

MISSING REQUIRED HTTP HEADERS

X-Frame-Options X-XSS-Protection X-Content-Type-Options Expect-CT

MISSING OPTIONAL HTTP HEADERS

Access-Control-Allow-Origin Permissions-Policy

SERVER

Web server does not disclose its version.

Good configuration

Raw HTTP Header

Server: nginx

Content Security Policy Hardening

CONTENT-SECURITY-POLICY

The header was not sent by the server.



Cookies Security Analysis

No cookies were sent by the web application.

Information





Secure Socket Layer

PASSIVE SECURITY AUDIT



Test SSL/TLS implementation of any service on any port for compliance with PCI DSS requirements, HIPAA guidance and NIST guidelines.

DATE OF TEST October 8th 2020 17:21 CEST THEACMECORPORATION.ORG FINAL GRADE FINAL GRADE

Summary of theacmecorporation.org:443 (HTTPS)

The server's certificate is untrusted.

Non-compliant with PCI DSS requirements

The server has TLS 1.1 enabled. NIST recommends to drop TLS 1.1 support since SP 800-52 REV. 2

Information



SSL Certificate Analysis

RSA CERTIFICATE INFORMATION

Issuer Go Daddy Secure Certificate Authority - G2

Trusted No.

Untrusted Reasons The certificate doesn't match hostname

Common Name *.webfaction.com

Key Type/Size RSA 2048 bits

Signature Algorithm sha256WithRSAEncryption

Subject Alternative Names DNS:*.webfaction.com, DNS:webfaction.com

Transparency Yes
Validation Level DV

CRL http://crl.godaddy.com/gdig2s1-1588.crl

OCSP http://ocsp.godaddy.com/

OCSP Must-Staple No Supports OCSP Stapling No

 Valid From
 December 18th 2019, 22:02 CET

 Valid To
 December 18th 2021, 22:02 CET

CERTIFICATE CHAIN

Server sends an unnecessary root certificate.

Misconfiguration or weakness

Self-signed

Go Daddy Root Certificate Authority - G2

Key Type/Size RSA 2048 bits

Signature Algorithm sha256WithRSAEncryption

SHA256 45140b3247eb9cc8c5b4f0d7b53091f73292089e6e5a63e2749dd3aca9198eda

PIN Ko8tivDrEjiY90yGasP6ZpBU4jwXvHqVvQI0GS3GNdA=

Expires in 6,293 days

Go Daddy Secure Certificate Authority - G2

Intermediate CA

Root CA

Key Type/Size RSA 2048 bits

Signature Algorithm sha256WithRSAEncryption

SHA256 973a41276ffd01e027a2aad49e34c37846d3e976ff6a620b6712e33832041aa6

PIN 8Rw90Ej3Ttt8RRkrg+WYDS9n7IS03bk5bjP/UXPtaY8=

Expires in 3,859 days



Server certificate Server certificate

Key Type/Size RSA 2048 bits

Signature Algorithm sha256WithRSAEncryption

SHA256

8e9db539d4ba06de383177d31bb5dbcd21a62db965dd8c4eaf4a3023c6090a0c

PIN MfumKLN/e83oeROHIC9dySAhAl4fLrW3e/qJmfmPnUY=

Expires in 436 days



PCI DSS Compliance Analysis

Reference: PCI DSS 3.1 - Requirements 2.3 and 4.1

CERTIFICATES ARE UNTRUSTED

The RSA certificate provided by the server could not be trusted.

Non-compliant with PCI DSS requirements

SUPPORTED CIPHERS

List of all cipher suites supported by the server:

TLSV1.2

COURT	
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_CAMELLIA_256_CBC_SHA	Good configuration
TLS_RSA_WITH_CAMELLIA_256_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_CAMELLIA_128_CBC_SHA	Good configuration
TLS_RSA_WITH_CAMELLIA_128_CBC_SHA	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	Good configuration
TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384	Good configuration
TLS_DHE_RSA_WITH_AES_128_GCM_SHA256	Good configuration
TLS_DHE_RSA_WITH_AES_256_GCM_SHA384	Good configuration
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256	Good configuration
TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384	Good configuration
TLS_DHE_RSA_WITH_AES_128_CBC_SHA256	Good configuration
TLS_DHE_RSA_WITH_AES_256_CBC_SHA256	Good configuration
TLS_RSA_WITH_AES_128_GCM_SHA256	Good configuration
TLS_RSA_WITH_AES_256_GCM_SHA384	Good configuration
TLS_RSA_WITH_AES_128_CBC_SHA256	Good configuration
TLS_RSA_WITH_AES_256_CBC_SHA256	Good configuration
TLSV1.1	



TLS_DHE_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_RSA_WITH_AES_128_CBC_SHA	Good configuration
TLS_RSA_WITH_AES_256_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_CAMELLIA_256_CBC_SHA	Good configuration
TLS_RSA_WITH_CAMELLIA_256_CBC_SHA	Good configuration
TLS_DHE_RSA_WITH_CAMELLIA_128_CBC_SHA	Good configuration
TLS_RSA_WITH_CAMELLIA_128_CBC_SHA	Good configuration
SUPPORTED PROTOCOLS	
List of all SSL/TLS protocols supported by the server:	
TLSv1.1	Good configuration
TLSv1.2	Good configuration
DIFFIE-HELLMAN PARAMETER SIZE	
Diffie-Hellman parameter size: 2048 bits	Good configuration
SUPPORTED ELLIPTIC CURVES	
List of all elliptic curves supported by the server:	
P-256 (prime256v1) (256 bits)	Good configuration
P-521 (secp521r1) (521 bits)	Good configuration
P-384 (secp384r1) (384 bits)	Good configuration
secp256k1 (256 bits)	Good configuration
POODLE OVER TLS	
The server is not vulnerable to POODLE over TLS.	Not vulnerable
GOLDENDOODLE	
The server is not vulnerable to GOLDENDOODLE.	Not vulnerable
ZOMBIE POODLE	
The server is not vulnerable to Zombie POODLE.	Not vulnerable
SLEEPING POODLE	
The server is not vulnerable to Sleeping POODLE.	Not vulnerable
0-LENGTH OPENSSL	
The server is not vulnerable 0-Length OpenSSL.	Not vulnerable
CVE-2016-2107	
The server is not vulnerable to OpenSSL padding-oracle flaw (CVE-2016-2107).	Not vulnerable
SERVER DOES NOT SUPPORT CLIENT-INITIATED INSECURE RENEGOTIATION	



The server does not support client-initiated insecure renegotiation.	Good configuration
ROBOT	
The server is not vulnerable to ROBOT (Return Of Bleichenbacher's Oracle Threat) vulnerability. HEARTBLEED	Not vulnerable
The server version of OpenSSL is not vulnerable to Heartbleed attack.	Not vulnerable
CVE-2014-0224	
The server is not vulnerable to CVE-2014-0224 (OpenSSL CCS flaw).	Not vulnerable



HIPAA Compliance Analysis

Reference: HIPAA of 1996, Guidance Specifying the Technologies and Methodologies that Render Protected Health Information Unusable, Unreadable, or Indecipherable to Unauthorized Individuals.

X.509 CERTIFICATES ARE IN VERSION 3

All the X509 certificates provided by the server are in version 3.

Good configuration

SERVER DOES NOT SUPPORT OCSP STAPLING

The server does not support OCSP stapling for its RSA certificate. Its support allows better verification of the certificate validation status.

Non-compliant with HIPAA guidance

SUPPORTED PROTOCOLS

List of all SSL/TLS protocols supported by the server:

TLSv1.1

TLSv1.2

Good configuration

Good configuration

SUPPORTED CIPHERS

List of all cipher suites supported by the server:

TLSV1.2

TLS ECDHE RSA WITH AES 128 CBC SHA

TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA

TLS_DHE_RSA_WITH_AES_128_CBC_SHA

TLS DHE RSA WITH AES 256 CBC SHA

TLS_RSA_WITH_AES_128_CBC_SHA

TLS RSA WITH AES 256 CBC SHA

TLS_DHE_RSA_WITH_CAMELLIA_256_CBC_SHA

TLS RSA WITH CAMELLIA 256 CBC SHA

TLS DHE RSA WITH CAMELLIA 128 CBC SHA

TLS_RSA_WITH_CAMELLIA_128_CBC_SHA

TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256

TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384

TLS_DHE_RSA_WITH_AES_128_GCM_SHA256

TLS_DHE_RSA_WITH_AES_256_GCM_SHA384

TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256

TLS ECDHE RSA WITH AES 256 CBC SHA384

TLS DHE RSA WITH AES 128 CBC SHA256

TLS DHE RSA WITH AES 256 CBC SHA256

TLS RSA WITH AES 128 GCM SHA256

Good configuration

Good configuration

Good configuration

Good Corniguration

Good configuration

Non-compliant with HIPAA guidance

Non-compliant with HIPAA guidance

Non-compliant with HIPAA guidance

Non-compliant with HIPAA guidance

Good configuration



Good configuration TLSV1.1 Good configuration TLS RSA WITH AES 256 CBC SHA DIFFIE-HELLMAN PARAMETER SIZE Diffie-Hellman parameter size: 2048 bits Good configuration SUPPORTED ELLIPTIC CURVES List of all elliptic curves supported by the server: P-256 (prime256v1) (256 bits) Good configuration secp256k1 (256 bits) Good configuration **TLSV1.1 SUPPORTED** The server supports TLSv1.1 which is required minimum to comply with HIPAA Good configuration guidance. **EC POINT FORMAT EXTENSION** The server supports the EC_POINT_FORMAT TLS extension.



NIST Compliance Analysis

Reference: NIST Special Publication 800-52 Revision 2 - Section 3

X.509 CERTIFICATES ARE IN VERSION 3

All the X509 certificates provided by the server are in version 3.

Good configuration

SERVER DOES NOT SUPPORT OCSP STAPLING

The server does not support OCSP stapling for its RSA certificate. Its support allows better verification of the certificate validation status.

Non-compliant with NIST guidelines

SUPPORTED CIPHERS

List of all cipher suites supported by the server:

TLSV1.2

TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA

TLS ECDHE RSA WITH AES 256 CBC SHA

TLS DHE RSA WITH AES 128 CBC SHA

TLS_DHE_RSA_WITH_AES_256_CBC_SHA

TIS RSA WITH AFS 128 CBC SHA

TLS_RSA_WITH_AES_256_CBC_SHA

TLS DHE RSA WITH CAMELLIA 256 CBC SHA

TIS RSA WITH CAMELLIA 256 CBC SHA

TLS DHE RSA WITH CAMELLIA 128 CBC SHA

TLS RSA WITH CAMELLIA 128 CBC SHA

TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256

TLS ECDHE RSA WITH AES 256 GCM SHA384

TLS_DHE_RSA_WITH_AES_128_GCM_SHA256

TLS DHE RSA WITH AES 256 GCM SHA384

TLS ECDHE RSA WITH AES 128 CBC SHA256

TLS ECDHE RSA WITH AES 256 CBC SHA384

TLS DHE RSA WITH AES 128 CBC SHA256

TIS DHE RSA WITH AES 256 CBC SHA256

TLS_RSA_WITH_AES_128_GCM_SHA256

TIS RSA WITH AFS 256 GCM SHA384

TLS_RSA_WITH_AES_128_CBC_SHA256

TLS_RSA_WITH_AES_256_CBC_SHA256

TLSV1.1

TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA

Good configuration

Non-compliant with NIST guidelines

Non-compliant with NIST guidelines

Non-compliant with NIST guidelines

Non-compliant with NIST guidelines

Good configuration



Good configuration Good configuration TLS RSA WITH AES 128 CBC SHA Good configuration SUPPORTED PROTOCOLS

List of all SSL/TLS protocols supported by the server:

DIFFIE-HELLMAN PARAMETER SIZE

Diffie-Hellman parameter size: 2048 bits

SUPPORTED ELLIPTIC CURVES

List of all elliptic curves supported by the server:

P-256 (prime256v1) (256 bits) Good configuration Good configuration secp256k1 (256 bits)

TLSV1.1 SUPPORTED

The server supports TLSv1.1. It's still compliant, but NIST recommends to drop TLS 1.1 support since SP 800-52 REV. 2

Information

SERVER DOES NOT SUPPORT OF TLSV1.3

The server does not support TLSv1.3 which is the only version of TLS that currently has no known flaws or exploitable weaknesses.

Information

SERVER DOES NOT SUPPORT EXTENDED MASTER SECRET

The server does not support Extended Master Secret extension for TLS vresions ≤ 1.2.

EC_POINT_FORMAT EXTENSION

The server supports the EC_POINT_FORMAT TLS extension.



Industry Best Practices Analysis

DNSCAA

This domain does not have a Certification Authority Authorization (CAA) record.

Information

CERTIFICATES DO NOT PROVIDE EV

The RSA certificate provided is NOT an Extended Validation (EV) certificate.

Information

SERVER DOES NOT SUPPORT OF TLSV1.3

The server does not support TLSv1.3 which is the only version of TLS that currently has no known flaws or exploitable weaknesses.

Misconfiguration or weakness

SERVER HAS CIPHER PREFERENCE

The server enforces cipher suites preference.

Good configuration

SERVER PREFERRED CIPHER SUITES

Preferred cipher suite for each protocol supported (except SSLv2). Expected configuration are ciphers allowed by PCI DSS and enabling PFS:

TLS ECDHE RSA WITH AES 128 CBC SHA

TLSv1.1 TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA

Good configuration

TLSv1.2 TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
TLSv1.2 TLS ECDHE_RSA_WITH_AES_128_GCM_SHA256

Good configuration

SERVER PREFERS CIPHER SUITES PROVIDING PFS

For TLS family of protocols, the server prefers cipher suite(s) providing Perfect Forward Secrecy (PFS).

Good configuration

HTTP SITE DOES NOT REDIRECT

The HTTP version of the website does not redirect to the HTTPS version. We advise to enable redirection.

Misconfiguration or weakness

SERVER DOES NOT PROVIDE HSTS

The server does not enforce HTTP Strict Transport Security. We advise to enable it to enforce the user to browse the website in HTTPS.

Misconfiguration or weakness

TLS_FALLBACK_SCSV

The server supports TLS_FALLBACK_SCSV extension for protocol downgrade attack prevention.

Good configuration

SERVER DOES NOT SUPPORT CLIENT-INITIATED SECURE RENEGOTIATION

The server does not support client-initiated secure renegotiation.

Good configuration

SERVER-INITIATED SECURE RENEGOTIATION

The server supports secure server-initiated renegotiation.

Good configuration

SERVER DOES NOT SUPPORT TLS COMPRESSION

TLS compression is not supported by the server.



Cybersecurity portfolio

CYBER SECURITY Operations		
SECURE DIGITAL Business	secure digital Identity	secure Industrial IoT
secure Hybrid Cloud		
SECURE DIGITAL Infrastructure		
SECURE DIGITAL Worplace		
Consulting Services		
Managed Services		

Web Application Security offering





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