TOP PROJECT NO. : CTCI PROJECT NO. :

HAZOP STUDY REPORT EPC MAIN WORK FOR CFP CRUDE OIL TANK PROJECT

FOR FINAL Thai Oil Public Company Limited **CERTIFIED** 0 Issue For Final PROJ. 70 Issue For Design MGR. DATE Α Issue For Review Rev. APPR. REV. DESCRIPTION CHK. DATE BY

Evaluation Only. Created with Aspose.Cells for .NET.Copyright 2003 - 2023 Aspose Pty Ltd.

	วัตถุประสงค์การศึกษาและขอบเขตงาน (Study Objective and Work Scope)
study work scope	

QMTS-SFR-24, Rev. 00, 17/08/22 Page 2 of 19

	รายชื่อผู้เข้าร่วม (Attendee list)									
				Dat	e of at	tenda	nce			
No.	Name	Company	29 Sep 2023							
1	Dungrat (TOP-XX)		Х							
2	TOP CMDP-Jaruwat P.		Х							
3	Nuttsuda (ADB)		Х							

เอกสารอ้างอิง (Drawing & Reference)						
No.	No. Document Name Drawing No		Document File	Comment		
	1 Node-001	desing intent	xx	xx		
	1 doc name - 001	drawing no - 001	20221202_Developer_https_qasapi_thaioilhub_thaioilgroup_compdf	comment -001		

QMTS-SFR-24, Rev. 00, 17/08/22 Page 4 of 19

Evaluation Only. Created with Aspose.Cells for .NET.Copyright 2003 - 2023 Aspose Pty Ltd.

Conditions Operating	ing Conditions Node Bound	ary Drawing No	Drawing Page (From-To)
	Operations Operations	Conditions Operating Conditions Node Bounds	Conditions Operating Conditions Node Boundary Drawing No

QMTS-SFR-24, Rev. 00, 17/08/22

	RECCOMENDATION STATUS TRACKING TABLE										
REF.	NODE	RR	Recommendation	Status	Action By						
					(Response & Signature)						
1	Node-001	M	R0001-1	Open	Dungrat (TOP-XX)						
2	Node-001	M	R0001-2		Dungrat (TOP-XX)						
3	Node-001	L	R0002-1		Dungrat (TOP-XX)						
4	Node-001	M	R0002-2		Dungrat (TOP-XX)						
5	Node-001	L	R0003-1	Open	TOP CMDP-Jaruwat P.						
6	Node-001	M	R0003-2		TOP CMDP-Jaruwat P.						
	i			i							

QMTS-SFR-24, Rev. 00, 17/08/22 Page 6 of 19

		Major Accident Event (MAE)	
No.	Node	Causes	Risk Asseessment Matrix (R)
1	Node-001		

QMTS-SFR-24, Rev. 00, 17/08/22 Page 7 of 19

ห (Consequences) ระดับความเสียง (Risk)
1.C0002-1
1.C0002-2
1.CS0001-0-1
1.CS0001-0-2
1.CS0001-1
2.CS0001-1-2
- - -

QMTS-SFR-24, Rev. 00, 17/08/22 Page 8 of 19

HAZOP STUDY WORKSHEET

1			
	Th	aid	orl

Project:	moc title - 00041	NODE	Node-001
Design Intent :	desing intent	System	retest descriptions
Design	xx		
Conditions:		HAZOP	
Operating		Boundary	
Conditions:			
PFD, PID No. :		Date	

Guide Word	Deviation	Causes	Consequences		mitiga Risk sessn		Major Accident Event			gated sessm Matrix	ent	Action No	Recommendations	Action by
				S	L	R	(Y/N)		S	L	R			
Flow	1.1 No Flow	C0001-0	CS0001-0-1	4	3	Н		ES0001-1	4	2	М		R0001-1	Dungrat (TOP-XX)
Flow	1.1 No Flow		CS0001-0-2	4	3	Н		ES0001-2	4	2	М		R0001-2	Dungrat (TOP-XX)
Flow	1.1 No Flow	C0001-1	CS0001-1	4	3	Н		ES0002-1	4	1	L		R0002-1	Dungrat (TOP-XX)
Flow	1.1 No Flow		CS0001-1-2	4	4	Н		ES0002-2	4	2	М		R0002-2	Dungrat (TOP-XX)
Flow	1.2 More/HighFlow	C0002-0	C0002-1	4	3	Н		ES0003-1	4	1	L		R0003-1	TOP CMDP-Jaruwat P
Flow	1.2 More/HighFlow	C0002-1	C0002-2	4	4	Н		ES0003-2	4	2	М		R0003-2	TOP CMDP-Jaruwat P

Note:

QMTS-SFR-24, Rev. 00, 17/08/22 Page 9 of 19

ภาคผนวก ก

ข้อมูลและตารางอ้างอิงสำหรับการประเมินความเสียง

APPENDIX A PHA -WORKSHEETS

ตารางการประเมินความเสียง (Risk Assessment Matrix (RAM))

		โดกาสในการเกิดความเสียง										
ระดับความรุนแรง	4	3	2	1								
4	มากที่สุด	มากที่สุด	มาก 3	ปานกลาง 2								
3	มากที่สุด	มาก 3	•	ปานกลาง								
2	มาก ₃	٠.	ปานกลาง 2	น้อย ₁								
1	ปานกลุวง	ปานกลาง 2	น้อย ₁	น้อย 1								

Risk Assessment Matrix: 4X4

Evaluation Only. Created with Aspose.Cells for .NET.Copyright 2003 - 2023 Aspose Pty Ltd.

HAZOP Guide Words

		TIAZOT Odide Words							
Deviations	Guide Word	Process Deviation (Examples of Cause)	Area of Application						
	Flow								
1.1 No Flow	Flow	Incorrect routing - blockage - burst pipe - large leak - equipment failure (C.V., isolation valve, pump, vessel, etc.) - incorrect pressure differentia							
1.2 More/HighFlow	Flow	Increased pumping capacity - reduced delivery head increased suction pressure - static generation under high velocity - pump gland leaks -etc.							
1.3 Less/Low Flow	Flow	Line blockage – filter blockage – fouling in vessels – defective pumps – restrictor or orifice plates –etc.							
1.4 Reverse Flow	Flow	Incorrect pressure differential – two-way flow – emergency venting – incorrect operation – in-line spare equipment –etc.							
1.5 MisdirectedFlow	Flow	Flow directed to stream other than intended due to misalignment of valves -etc.							
		Level							
4.1 Less/Low Level	Level								
4.1 More/High Level	Level								
	Other Then								
5.1 Composition Cha									
5.10 External Fire/Ex	Other Then								
5.11 Safety&Human	Other Then								
5.12 Optional Guidev	Other Then								
5.2 Contamination	Other Then								
5.3 Leakage(Heat Ex	Other Then								
5.4 Reaction	Other Then								
5.5 Start Up/Shut Do	Other Then								
5.6 Vent/Drain/Purge	Other Then								
5.7 Maintenance/Ins	Other Then								
5.8 Corrosion/Erosio	Other Then								
5.9 Utilities Service F	Other Then								
		Pressure							
2.1 More/High Press	Pressure	Surge problems (line and flange sizes) - relief philosophy (process / fire etc.) - connection to high pressure system - gas breakthrough (inadequation)							
2.2 Less/Low Pressu	Pressure	Generation of vacuum condition – restricted pump/ compressor suction line – vessel drainage –etc.							
		Temperature							
3.1 More/High Temp	Temperature	Ambient conditions – fire situation – high than normal temperature – fouled cooler tubes – cooling water temperature wrong –cooling water failure							
3.2 Less/Low Tempe	Temperature	Ambient conditions – reducing pressure – loss of heating – depressurization of liquefied gas – Joule Thompsoneffect – line freezing –etc.							
	_	Viscosity							
	Viscosity								
5.2 Less Viscosity	Viscosity								

HAZOP RECOMMENDATION RESPONSE SHEET Project Title:moc title - 00041 Project No:HAZOP-2023-0000041 Node: Dungrat (TOP-XX) Action By: Dungrat (TOP-XX) Response By: Action No. drawing no - 001 (20221202 Developer https qasapi thaioilhub thaioilgroup com .pdf) **Drawing and** Documents **Action Description** Deviation: C0001-0 CS0001-0-1 Cause: Consequences: ES0001-1 Safeguards: R0001-1 Recommendation: Action Response: **Action Close-out** Signature By whom Date Details Response Ownner Approval

QMTS-SFR-24, Rev. 00, 17/08/22 Page 13 of 19

HAZOP RECOMMENDATION RESPONSE SHEET Project Title:moc title - 00041 Project No:HAZOP-2023-0000041 Node: Dungrat (TOP-XX) Action By: Dungrat (TOP-XX) Response By: Action No. drawing no - 001 (20221202 Developer https qasapi thaioilhub thaioilgroup com .pdf) **Drawing and** Documents **Action Description** Deviation: CS0001-0-2 Cause: Consequences: ES0001-2 Safeguards: R0001-2 Recommendation: Action Response: **Action Close-out** Signature By whom Date Details Response Ownner Approval

QMTS-SFR-24, Rev. 00, 17/08/22 Page 14 of 19

HAZOP RECOMMENDATION RESPONSE SHEET Project Title:moc title - 00041 Project No:HAZOP-2023-0000041 Node: Dungrat (TOP-XX) Action By: Dungrat (TOP-XX) Response By: Action No. drawing no - 001 (20221202 Developer https qasapi thaioilhub thaioilgroup com .pdf) **Drawing and** Documents **Action Description** Deviation: C0001-1 CS0001-1 Cause: Consequences: ES0002-1 Safeguards: R0002-1 Recommendation: Action Response: **Action Close-out** Signature By whom Date Details Response Ownner Approval

QMTS-SFR-24, Rev. 00, 17/08/22 Page 15 of 19

HAZOP RECOMMENDATION RESPONSE SHEET Project Title:moc title - 00041 Project No:HAZOP-2023-0000041 Node: Dungrat (TOP-XX) Action By: Dungrat (TOP-XX) Response By: Action No. drawing no - 001 (20221202 Developer https qasapi thaioilhub thaioilgroup com .pdf) **Drawing and** Documents **Action Description** Deviation: CS0001-1-2 Cause: Consequences: ES0002-2 Safeguards: R0002-2 Recommendation: Action Response: **Action Close-out** Signature By whom Date Details Response Ownner Approval

QMTS-SFR-24, Rev. 00, 17/08/22 Page 16 of 19

HAZOP RECOMMENDATION RESPONSE SHEET Project Title:moc title - 00041 Project No:HAZOP-2023-0000041 Node: TOP CMDP-Jaruwat P. Action By: TOP CMDP-Jaruwat P. Response By: Action No. drawing no - 001 (20221202 Developer https qasapi thaioilhub thaioilgroup com .pdf) **Drawing and** Documents **Action Description** Deviation: C0002-0 C0002-1 Cause: Consequences: ES0003-1 Safeguards: R0003-1 Recommendation: Action Response: **Action Close-out** Signature By whom Date Details Response Ownner Approval

QMTS-SFR-24, Rev. 00, 17/08/22 Page 17 of 19

HAZOP RECOMMENDATION RESPONSE SHEET Project Title:moc title - 00041 Project No:HAZOP-2023-0000041 Node: TOP CMDP-Jaruwat P. Action By: TOP CMDP-Jaruwat P. Response By: Action No. drawing no - 001 (20221202 Developer https qasapi thaioilhub thaioilgroup com .pdf) **Drawing and** Documents **Action Description** Deviation: C0002-1 C0002-2 Cause: Consequences: ES0003-2 Safeguards: R0003-2 Recommendation: Action Response: **Action Close-out** Signature By whom Date Details Response Ownner Approval

QMTS-SFR-24, Rev. 00, 17/08/22 Page 18 of 19

Evaluation Only. Created with Aspose.Cells for .NET.Copyright 2003 - 2023 Aspose Pty Ltd.

ภาคผนวก - PIDs / PFDs



Developer Report

Acunetix Security Audit

2022-12-02

Generated by Acunetix

Scan of qasapi-thaioilhub.thaioilgroup.com

Scan details

Scan information	
Start time	2022-12-02T14:12:12.027034+07:00
Start url	https://qasapi-thaioilhub.thaioilgroup.com/
Host	qasapi-thaioilhub.thaioilgroup.com
Scan time	9 minutes, 1 seconds
Profile	Full Scan
Server information	nginx/1.10.3 (Ubuntu)
Responsive	True
Server OS	Unix
Application build	15.1.221109177

Threat level

Acunetix Threat Level 3

One or more high-severity type vulnerabilities have been discovered by the scanner. A malicious user can exploit these vulnerabilities and compromise the backend database and/or deface your website.

Alerts distribution

Total alerts found	5
• High	2
Medium	2
① Low	0
Informational	1

Alerts summary

TLS 1.0 enabled

Classification	
CVSS3	CVSS:3.1/AV:N/AC:H/PR:N/UI:N/S:C/C:L/I:L/A:N Base Score: 5.4 Attack Vector: Network Attack Complexity: High Privileges Required: None User Interaction: None Scope: Changed Confidentiality Impact: Low Integrity Impact: Low Availability Impact: None
CVSS2	Base Score: 5.8 Access Vector: Network_accessible Access Complexity: Medium Authentication: None Confidentiality Impact: Partial Integrity Impact: Partial Availability Impact: None Exploitability: Not_defined Remediation Level: Not_defined Report Confidence: Not_defined Availability Requirement: Not_defined Collateral Damage Potential: Not_defined Confidentiality Requirement: Not_defined Integrity Requirement: Not_defined Target Distribution: Not_defined
CWE	CWE-326
Affected items	Variation
Web Server	1

1 TLS/SSL certificate invalid date

Classification	
CVSS3	CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:N/I:N/A:L Base Score: 5.3 Attack Vector: Network Attack Complexity: Low Privileges Required: None User Interaction: None Scope: Unchanged Confidentiality Impact: None Integrity Impact: None Availability Impact: Low

CVSS2	Base Score: 5.0 Access Vector: Network_accessible Access Complexity: Low Authentication: None Confidentiality Impact: None Integrity Impact: None Availability Impact: Partial Exploitability: Not_defined Remediation Level: Not_defined Report Confidence: Not_defined Availability Requirement: Not_defined Collateral Damage Potential: Not_defined Confidentiality Requirement: Not_defined Integrity Requirement: Not_defined Target Distribution: Not_defined
CWE	CWE-298
Affected items	Variation
Web Server	1

UTLS 1.1 enabled

Classification	
CVSS3	CVSS:3.1/AV:N/AC:H/PR:N/UI:N/S:C/C:L/I:L/A:N Base Score: 5.4 Attack Vector: Network Attack Complexity: High Privileges Required: None User Interaction: None Scope: Changed Confidentiality Impact: Low Integrity Impact: None
CVSS2	Base Score: 5.8 Access Vector: Network_accessible Access Complexity: Medium Authentication: None Confidentiality Impact: Partial Integrity Impact: Partial Availability Impact: None Exploitability: Not_defined Remediation Level: Not_defined Report Confidence: Not_defined Availability Requirement: Not_defined Collateral Damage Potential: Not_defined Confidentiality Requirement: Not_defined Integrity Requirement: Not_defined Target Distribution: Not_defined
CWE	CWE-326
Affected items	Variation
Web Server	1

TLS/SSL LOGJAM attack

Classification	
Classification	
Clacollication	

CVSS3	CVSS:3.0/AV:N/AC:H/PR:N/UI:N/S:U/C:N/I:L/A:N Base Score: 3.7 Attack Vector: Network Attack Complexity: High Privileges Required: None User Interaction: None Scope: Unchanged Confidentiality Impact: None Integrity Impact: Low Availability Impact: None Base Score: 1.9
CVSS2	Access Vector: Local_access Access Complexity: Medium Authentication: None Confidentiality Impact: Partial Integrity Impact: None Availability Impact: None Exploitability: Not_defined Remediation Level: Not_defined Report Confidence: Not_defined Availability Requirement: Not_defined Collateral Damage Potential: Not_defined Confidentiality Requirement: Not_defined Integrity Requirement: Not_defined Target Distribution: Not_defined
CVE	CVE-2015-4000
CWE	CWE-310
Affected items	Variation
Web Server	1

① Access-Control-Allow-Origin header with wildcard (*) value

Classification	
CVSS3	CVSS:3.1/AV:N/AC:H/PR:N/UI:R/S:C/C:N/I:N/A:N Base Score: 0.0 Attack Vector: Network Attack Complexity: High Privileges Required: None User Interaction: Required Scope: Changed Confidentiality Impact: None Integrity Impact: None Availability Impact: None

CVSS2	Base Score: 0.0 Access Vector: Network_accessible Access Complexity: High Authentication: None Confidentiality Impact: None Integrity Impact: None Availability Impact: None Exploitability: Not_defined Remediation Level: Not_defined Report Confidence: Not_defined Availability Requirement: Not_defined Collateral Damage Potential: Not_defined Confidentiality Requirement: Not_defined Integrity Requirement: Not_defined Target Distribution: Not_defined
CWE	CWE-284
Affected items	Variation
Web Server	1

Alerts details

TLS 1.0 enabled

Severity	High
Reported by module	/Scripts/PerServer/SSL_Audit.script

Description

The web server supports encryption through TLS 1.0, which was formally deprecated in March 2021 as a result of inherent security issues. In addition, TLS 1.0 is not considered to be "strong cryptography" as defined and required by the PCI Data Security Standard 3.2(.1) when used to protect sensitive information transferred to or from web sites. According to PCI, "30 June 2018 is the deadline for disabling SSL/early TLS and implementing a more secure encryption protocol – TLS 1.1 or higher (TLS v1.2 is strongly encouraged) in order to meet the PCI Data Security Standard (PCI DSS) for safeguarding payment data.

Impact

An attacker may be able to exploit this problem to conduct man-in-the-middle attacks and decrypt communications between the affected service and clients.

Recommendation

It is recommended to disable TLS 1.0 and replace it with TLS 1.2 or higher.

References

RFC 8996: Deprecating TLS 1.0 and TLS 1.1 (https://tools.ietf.org/html/rfc8996)

<u>Are You Ready for 30 June 2018? Saying Goodbye to SSL/early TLS (https://blog.pcisecuritystandards.org/are-you-ready-for-30-june-2018-sayin-goodbye-to-ssl-early-tls)</u>

PCI 3.1 and TLS 1.2 (Cloudflare Support) (https://support.cloudflare.com/hc/en-us/articles/205043158-PCI-3-1-and-TLS-1-2)

Affected items

Web Server

Details

The SSL server (port: 443) encrypts traffic using TLSv1.0.

Request headers

TLS/SSL certificate invalid date

Severity	High
Reported by module	/Scripts/PerServer/SSL_Audit.script

Description

One of the TLS/SSL certificates sent by your server has either expired or is not yet valid.

Most web browsers will present end-users with a security warning, asking them to manually confirm the authenticity of your certificate chain. Software or automated systems may silently refuse to connect to the server.

This alert is not necessarily caused by the server (leaf) certificate, but may have been triggered by an intermediate certificate. Please refer to the certificate serial number in the alert details to identify the affected certificate.

Impact

This SSL certificate is not valid.

Recommendation

Verify Start Date and/or End Dates of your SSL Certificate.

Affected items

Web Server

Details

The TLS/SSL certificate (serial: 0342ca47127462a1917c0cca5878c619) has expired...

The certificate validity period is between **Wed Dec 09 2020 07:00:00 GMT+0700 (SE Asia Standard Time)** and **Mon Jan 10 2022 06:59:59 GMT+0700 (SE Asia Standard Time)**

Request headers

TLS 1.1 enabled

Severity	Medium
Reported by module	/Scripts/PerServer/SSL_Audit.script

Description

The web server supports encryption through TLS 1.1, which was formally deprecated in March 2021 as a result of inherent security issues. When aiming for Payment Card Industry (PCI) Data Security Standard (DSS) compliance, it is recommended to use TLS 1.2 or higher instead. According to PCI, "30 June 2018 is the deadline for disabling SSL/early TLS and implementing a more secure encryption protocol – TLS 1.1 or higher (TLS v1.2 is strongly encouraged) in order to meet the PCI Data Security Standard (PCI DSS) for safeguarding payment data.

Impact

An attacker may be able to exploit this problem to conduct man-in-the-middle attacks and decrypt communications between the affected service and clients.

Recommendation

It is recommended to disable TLS 1.1 and replace it with TLS 1.2 or higher.

References

RFC 8996: Deprecating TLS 1.0 and TLS 1.1 (https://tools.ietf.org/html/rfc8996)

<u>Are You Ready for 30 June 2018? Saying Goodbye to SSL/early TLS (https://blog.pcisecuritystandards.org/are-you-ready-for-30-june-2018-sayin-goodbye-to-ssl-early-tls)</u>

PCI 3.1 and TLS 1.2 (Cloudflare Support) (https://support.cloudflare.com/hc/en-us/articles/205043158-PCI-3-1-and-TLS-1-2)

Affected items

Web Server

Details

The SSL server (port: 443) encrypts traffic using TLSv1.1.

Request headers

TLS/SSL LOGJAM attack

Severity	Medium
Reported by module	/Scripts/PerServer/SSL_Audit.script

Description

The LOGJAM attack is a SSL/TLS vulnerability that allows attackers to intercept HTTPS connections between vulnerable clients and servers and force them to use 'export-grade' cryptography, which can then be decrypted or altered. This vulnerability alert is issued when a web site is found to support DH(E) export cipher suites, or non-export DHE cipher suites using either DH primes smaller than 1024 bits, or commonly used DH standard primes up to 1024 bits.

Impact

An attacker may intercept HTTPS connections between vulnerable clients and servers.

Recommendation

Reconfigure the affected SSL/TLS server to disable support for any DHE_EXPORT suites, for DH primes smaller than 1024 bits, and for DH standard primes up to 1024 bits. Refer to the "Guide to Deploying Diffie-Hellman for TLS" for further guidance on how to configure affected systems accordingly.

References

Weak Diffie-Hellman and the Logjam Attack (https://weakdh.org/)
Guide to Deploying Diffie-Hellman for TLS (https://weakdh.org/sysadmin.html)
CVE-2015-4000 (http://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2015-4000)

Affected items

Web Server

Details

Weak DH Key Parameters (p < 1024 bits, or <= 1024 bits for common primes):

- TLS1.0, TLS DHE RSA WITH AES 256 CBC SHA: 1024 bits (common prime)
- TLS1.0, TLS DHE RSA WITH CAMELLIA 256 CBC SHA: 1024 bits (common prime)
- TLS1.0, TLS_DHE_RSA_WITH_AES_128_CBC_SHA: 1024 bits (common prime)
- TLS1.0, TLS DHE RSA WITH SEED CBC SHA: 1024 bits (common prime)
- TLS1.0, TLS_DHE_RSA_WITH_CAMELLIA_128_CBC_SHA: 1024 bits (common prime)
- TLS1.1, TLS DHE RSA WITH AES 256 CBC SHA: 1024 bits (common prime)
- TLS1.1, TLS_DHE_RSA_WITH_CAMELLIA_256_CBC_SHA: 1024 bits (common prime)
- TLS1.1, TLS_DHE_RSA_WITH_AES_128_CBC_SHA: 1024 bits (common prime)
- TLS1.1, TLS DHE RSA WITH SEED CBC SHA: 1024 bits (common prime)
- TLS1.1, TLS_DHE_RSA_WITH_CAMELLIA_128_CBC_SHA: 1024 bits (common prime)
- TLS1.2, TLS_DHE_RSA_WITH_AES_256_GCM_SHA384: 1024 bits (common prime)
- TLS1.2, TLS_DHE_RSA_WITH_AES_256_CBC_SHA256: 1024 bits (common prime)
- TLS1.2, TLS DHE RSA WITH AES 256 CBC SHA: 1024 bits (common prime)
- TLS1.2, TLS DHE RSA WITH CAMELLIA 256 CBC SHA: 1024 bits (common prime)
- TLS1.2, TLS_DHE_RSA_WITH_AES_128_GCM_SHA256: 1024 bits (common prime)
- TLS1.2, TLS_DHE_RSA_WITH_AES_128_CBC_SHA256: 1024 bits (common prime)
- TLS1.2, TLS DHE RSA WITH AES 128 CBC SHA: 1024 bits (common prime)
- TLS1.2, TLS DHE RSA WITH SEED CBC SHA: 1024 bits (common prime)
- TLS1.2, TLS_DHE_RSA_WITH_CAMELLIA_128_CBC_SHA: 1024 bits (common prime)

Request headers

Access-Control-Allow-Origin header with wildcard (*) value

Severity	Informational
Reported by module	/httpdata/cors_acao.js

Description

Cross-origin resource sharing (CORS) is a mechanism that allows restricted resources (e.g. fonts) on a web page to be requested from another domain outside the domain from which the resource originated. The Access-Control-Allow-Origin header indicates whether a resource can be shared based on the value of the Origin request header, "*", or "null" in the response.

If a website responds with Access-Control-Allow-Origin: * the requested resource allows sharing with every origin. Therefore, any website can make XHR (XMLHTTPRequest) requests to the site and access the responses.

Impact

Any website can make XHR requests to the site and access the responses.

Recommendation

Check whether Access-Control-Allow-Origin: * is appropriate for the resource/response.

References

Test Cross Origin Resource Sharing (OTG-CLIENT-007)

(https://www.owasp.org/index.php/Test Cross Origin Resource Sharing (OTG-CLIENT-007))

<u>Cross-origin resource sharing (https://en.wikipedia.org/wiki/Cross-origin_resource_sharing)</u>

Cross-Origin Resource Sharing (http://www.w3.org/TR/cors/)

<u>CrossOriginRequestSecurity (https://code.google.com/p/html5security/wiki/CrossOriginRequestSecurity)</u>

Cross-Origin Resource Sharing (CORS) and the Access-Control-Allow-Origin Header (https://www.acunetix.com/blog/web-

security-zone/cross-origin-resource-sharing-cors-access-control-allow-origin-header/).

<u>PortSwigger Research on CORS misconfiguration (https://portswigger.net/research/exploiting-cors-misconfigurations-for-bitcoins-and-bounties)</u>

Affected items

Web Server

Details

Affected paths (max. 25):

- /api/admin/bus/route/search
- /
- /api/
- · /api/admin/
- /api/admin/bus/
- · /api/admin/pool/location
- · /api/auth/login
- /api/admin/pool/station/list
- · /api/admin/bus/create
- /api/admin/bus/edit/name
- · /api/admin/route/delete
- · /api/admin/bus/station
- /api/admin/pool/route/listRouteByPool
- · /api/admin/bus/route
- /api/admin/pool
- /api/admin/bus/stationByld
- /api/admin/pool/station/name
- · /api/admin/pool/route/id
- /api/admin/bus/route/listBus
- /api/admin/bus/edit/
- · /api/admin/pool/station

Request headers

GET /api/admin/bus/route/search?

stationFrom=%E0%B9%82%E0%B8%A3%E0%B8%87%E0%B8%81%E0%B8%A5%E0%B8%B1%E0%B9%88%E0%B8%99&stationTo=%E0%B8%95%E0%B8%A5%E0%B8%B2%E0%B8%94%E0%B8%A8%E0%B8%A3%E0%B8%B5%E0%B9%80%E0%B8%88%E0%B8%A3%E0%B8%B4%E0%B8%8D&type= HTTP/1.1

Referer: https://qasapi-thaioilhub.thaioilgroup.com/

X-Auth-Token: 1f41ed2818df6c9ba0b2faf85cab4481

Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8

Accept-Encoding: gzip, deflate, br

User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like

Gecko) Chrome/107.0.0.0 Safari/537.36

Host: qasapi-thaioilhub.thaioilgroup.com

Connection: Keep-alive

Authorization: Bearer e28e558a-a48f-4367-8ec0-57124c59ffc1

Content-Type: application/json

Scanned items (coverage report)

https://qasapi-thaioilhub.thaioilgroup.com/

https://qasapi-thaioilhub.thaioilgroup.com/api/

https://gasapi-thaioilhub.thaioilgroup.com/api/admin/

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/bus/

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/bus/create

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/bus/delete

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/bus/edit/

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/bus/edit/name

https://gasapi-thaioilhub.thaioilgroup.com/api/admin/bus/listBus

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/bus/route

https://gasapi-thaioilhub.thaioilgroup.com/api/admin/bus/route/

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/bus/route/id

https://gasapi-thaioilhub.thaioilgroup.com/api/admin/bus/route/listBus

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/bus/route/listRouteByBus

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/bus/route/listStation

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/bus/route/search

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/bus/station

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/bus/stationByld

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/pool

https://gasapi-thaioilhub.thaioilgroup.com/api/admin/pool/

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/pool/list

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/pool/location

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/pool/route

https://gasapi-thaioilhub.thaioilgroup.com/api/admin/pool/route/

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/pool/route/id

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/pool/route/listRouteByPool

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/pool/station

https://gasapi-thaioilhub.thaioilgroup.com/api/admin/pool/station/

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/pool/station/list

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/pool/station/name

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/pool/station/timeTackingByld

https://gasapi-thaioilhub.thaioilgroup.com/api/admin/route/

https://qasapi-thaioilhub.thaioilgroup.com/api/admin/route/delete

https://qasapi-thaioilhub.thaioilgroup.com/api/auth/

https://qasapi-thaioilhub.thaioilgroup.com/api/auth/login