HIKVISION

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Preparation

- 1) OpenSSL
- 2) OpenSSL.cnf (config file)
- 3) HCP testing environment

Title (How to create HCP HTTPS Cert)

1. Download & Install OpenSSL

1) Download from http://wiki.overbyte.eu/wiki/index.php/ICS_Download

-,			
on older versions	of Windows	such as XP,	Vista and 7.

Date	Download	Description	Comments
2023-	OpenSSL Binaries Win-64 3.1.0 requires	Built with Visual Studio	Supports TLSv1.3. For 64-bit applications only (XE2+). Digitally code signed. Only supports Windows Vista/Server 2008, and later, not Windows XP.
03-15	ICS V8.67 or later과	Build Tools 2017	
2023-	OpenSSL Binaries Win-32 3.1.0 requires	Built with Visual Studio	Supports TLSv1.3. Use with 32-bit applications on Windows 64-bit. Digitally code signed. Only supports Windows Vista/Server 2008, and later, not Windows XP.
03-15	ICS V8.67 or later₽	Build Tools 2017	
2023-	OpenSSL Binaries Win-64 3.0.8 requires	Built with Visual Studio	Supports TLSv1.3. For 64-bit applications only (XE2+). Digitally code signed. Only supports Windows Vista/Server 2008, and later, not Windows XP.
02-07	ICS V8.67 or later와	Build Tools 2017	
2023-	OpenSSL Binaries Win-32 3.0.8 requires	Built with Visual Studio	Supports TLSv1.3. Use with 32-bit applications on Windows 64-bit. Digitally code signed. Only supports Windows Vista/Server 2008, and later, not Windows XP.
02-07	ICS V8.67 or later	Build Tools 2017	

- 2) Pick the latest version.
- 3) Extract from zip file to (eg. D:\Hikvision\OpenSSL\)
- 4) Add the path to Environment Variables
 - i. Windows Search "View advanced system settings"
 - ii. Select "Environment Variables"
 - iii. Under "System Variables" Select and Edit "Path"
 - iv. Click on "New" insert the path (eg. D:\Hikvision\OpenSSL\)

2. Download OpenSSL.cnf

- 1) Download Link: <u>https://drive.ticklink.com/hcs/controller/hik-manage/fileDownload?link=qw8QHPI2</u> Passcode:1314520
- 2) Keep the openssl.cnf to (eg. D:\Hikvision\Cert\)



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3. Edit the IP.1 and DNS.1

- 1	🔀
- I 🖸 📙 ╤ I SSL	*openssLefr - Notepad -
File Home Share View	File Edit Format View Help
← → → ↑ 🔒 → This PC → Windows-SSD (C:) → Program	
	# Some might want this also
A Name	<pre># nsCertType = sslCA, emailCA</pre>
Desktop	
Downloads *	# Include email address in subject alt name: another PKIX recommendation
Documents *	# subjectAltName=email:copy
E Pictures 🖈	# Copy issuer details
• Orabin	# issuerAltName=issuer:copy
 OneDrive 	subjectAltName = @alt_names
💻 This PC	[alt_names]
3D Objects	IP.1=127.0.0.1
E Desktop	DNS.1=mypc.hcp.com
Documents	
Downloads	# DER hex encoding of an extension: beware experts only!
J Music	# obj=DER:02:03
E Pictures	# Where 'obj' is a standard or added object
Videos	# You can even override a supported extension:
Le Windows-SSD	<pre># basicConstraints= critical, DER:30:03:01:01:FF</pre>
Local Disk (D:)	
Network 1 item 1 item selected 10.8 KB	[crl_ext]
	# CRL extensions.
	# Only issuerAltName and authorityKevIdentifier make any sense in a CRL.
	# issuerAltName=issuer:copy
	authorityKeyIdentifier=keyid:always

Note:

It can be multiple IP and DNS. (Eg. IP.2= & DNS.2=)



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4. Command in CMD

- 1) SET OPENSSL CONF=D:\Hikvision\Cert/openssl.cnf
- 2) cd /d D:\Hikvision\Cert\
- 3) openssl req -new -nodes -newkey rsa:2048 -keyout demo.key -out demo.csr
- 4) sg
- 5) Fill detail

Eg.

State or Province Name : Singapore

Locality Name : Singapore

Organization Name : Hikvision

Organizational Unit Name : Technical Support

Common Name : fake DNS example: pcname.hikvision.com

Email Address : oa@hikvision.com

Password: abcd1234

D:\HIKVISION\doc\technical\certTest>openssl req -new -nodes -newkey rsa:2048 -keyout demo.key -out demo.csr You are about to be asked to enter information that will be incorporated into your certificate request. What you are about to enter is what is called a Distinguished Name or a DN. There are quite a few fields but you can leave some blank For some fields there will be a default value, If you enter '.', the field will be left blank. Country Name (2 letter code) [AU]:sg State or Province Name (full name) [Some-State]:Singapore Locality Name (eg, city) []:Singapore Organization Name (eg, company) [Internet Widgits Pty Ltd]:Hikvision Organizational Unit Name (eg, section) []:Technical Support Common Name (e.g. server FQDN or YOUR name) []:mypc.hcp.com Email Address []:tongyoung.ng@hikvision.com Please enter the following 'extra' attributes to be sent with your certificate request A challenge password []:abcd1234 An optional company name []:

D:\HIKVISION\doc\technical\certTest>

6) openssl x509 -signkey demo.key -in demo.csr -req -days 365 -out demo.pem -extfile openssl.cnf -extensions v3_ca

Note:

365 is the cert expiry perior, it can be change & In "D:\Hikvision\Cert\" will have 4 files in total.

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5. Update Key

1) Copy entire key from demo.key and paste it to demo.pem



2) As screenshot below:



Note: Remember to save the demo.pem



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6. Import demo.pem to HCP

1) HCP WebClient - System Configuration - Security - Transfer Protocol - HTTPS - New Certificate - Upload

88	6 HikCentral Profession	al Web Client Account and Security	System Configuration $ {\cal C} imes $		G
	System Configuration	Transfer Protocol		C Open	
88	Normal ^			← → × ↑ → This PC Organize ▼ New folder	> LOCALDISK (D:) > HIKVISION > doc >
	User Preference Holiday Settings Printer Settings	Clients and SYS Transfer	 HTTP HTTPS Only the TLS in version 1.2 and above are supported, and the browser must support and has enabled the TLS in version 1.2 and above. 	Image: Provide access Na Image: Desidop Image: Provide access Image: Documents Image: Provide access Image: Documents Image: Provide access Image: Provide access Image: Provide access	nme D demo.pem 1
Ø	Card Template Network Ý	Certificate	 System Provided Certificate New Certificate 	 OneDrive This PC 3D Objects Desktop Documents 	
Di (þ	Storage V Email V	*Upload Certificate	 The new certificate should be in PEM format, and the public key and private key certificates are the same one. 	Downloads Music Pictures Videos Windows-SSD (C1)	
\oplus	Security ^			Local Disk (D:)	
	Transfer Protocol		Save	Network	
	Service Component				
	Export Profile Pictures			File name:	demo.pem
	Database Password				

Important Note: HCP SYS Service will restart after Save

7. Clear Web Browser Cache



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8. Export Cert (It can be any PC)

1) Click on "Not secure" – "Details" – "Export"



9. Save the Export file under .crt format

 File name:
 mypc.hcp.com.crt

 Save as type:
 Base64-encoded ASCII, single certificate (*.pem;*.

10. Run the .crt

- 1) Store Location: Local Machine
- 2) Place the cert under "Trusted Root Certification Authorities"
- **11.** Completed.

Note:

Access to IP.1 or DNS.1 shoudn't prompt not secure for 365days



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