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● UA 產品如何使用 OpenVPN 連線?

泓格科技的 UA 系列產品提供了 OpenVPN Client 功能，本篇說明如何使用 OpenVPN 連線。

(此範例使用 UA-5231 v1.5.2.3 + PC 作業系統 Win10, 64 位元, 並安裝 OpenVPN-2.6.13)

此篇分兩個部分說明:

- (1) UA 系列產品使用公共 OpenVPN Server 進行連線
- (2) UA 系列產品使用自建 OpenVPN Server 進行連線

1. UA 系列產品使用公共 OpenVPN Server 進行連線

請先至 <https://www.vpngate.net/EN/> 下載需要連線的 OpenVPN Config file

並記下 Username 與 Password

The 5213 Public VPN Relay Servers by volunteers around the world.

You may connect to any of these VPN servers with: Username: 'vpn', Password: 'vpn'.

Apply search filters: ☒ SoftEther VPN (SSL-VPN) ☒ L2TP/IPsec ☒ OpenVPN ☒ MS-SSTP [\(Add your VPN server to this list.\)](#)

You must specify the IP address of the destination VPN Server, instead of DDNS hostname (.opengw.net) if you are under censorship.

Do you want to parse the below HTML table? Instead you can use [CSV List](#) to make your own VPN Gate client app.

Country (Physical location)	DDNS hostname IP Address (ISP hostname)	VPN sessions Uptime Cumulative users	Line quality Throughput and Ping Cumulative transfers Logging policy	SSL-VPN Windows (comfortable)	L2TP/IPsec Windows, Mac, iPhone, Android No client required	OpenVPN Windows, Mac, iPhone, Android	MS-SSTP Windows Vista, 7, 8, RT No client required	Volunteer operator's name (+ Operator's message)	Score (Quality)
Japan	public-vpn-243.opengw.net 219.100.37.172 (public-vpn-11-12.vpngate.v4.open.ad.jp)	92 sessions 23 days Total 15,189,856 users	2,111.58 Mbps Ping: 9 ms 721,746.93 GB Logging policy: 2 Weeks	✓ SSL-VPN Connect guide TCP: 443 UDP: Supported	✓ L2TP/IPsec Connect guide	✓ OpenVPN Config file TCP: 443	✓ MS-SSTP Connect guide SSTP Hostname : public-vpn-243.opengw.net	<i>By Daiyuu Nobori, Japan. Academic Use Only.</i>	2,752,761
Japan	public-vpn-203.opengw.net 219.100.37.164 (public-vpn-11-04.vpngate.v4.open.ad.jp)	77 sessions 23 days Total 9,993,884 users	2,531.28 Mbps Ping: 26 ms 434,278.69 GB Logging policy: 2 Weeks	✓ SSL-VPN Connect guide TCP: 443 UDP: Supported	✓ L2TP/IPsec Connect guide	✓ OpenVPN Config file TCP: 443	✓ MS-SSTP Connect guide SSTP Hostname : public-vpn-203.opengw.net	<i>By Daiyuu Nobori, Japan. Academic Use Only.</i>	2,545,648
Japan	public-vpn-138.opengw.net 219.100.37.117	148 sessions 24 days	1,729.44 Mbps Ping: 11 ms	✓	✓	✓	✓	<i>By Daiyuu Nobori, Japan. Academic Use Only.</i>	2,498,636

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進入 UA 產品頁面，在 [系統設定] 的 [網路設定] 中找到 VPN 項目

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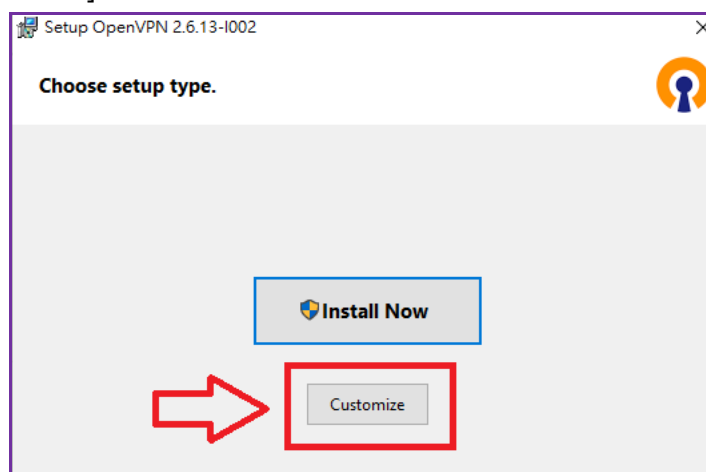
2. UA 系列產品使用自建 OpenVPN Server 進行連線

說明: 此範例使用 win10 架設 OpenVPN Server 並說明如何使用 UA 產品連線至 OpenVPN Server

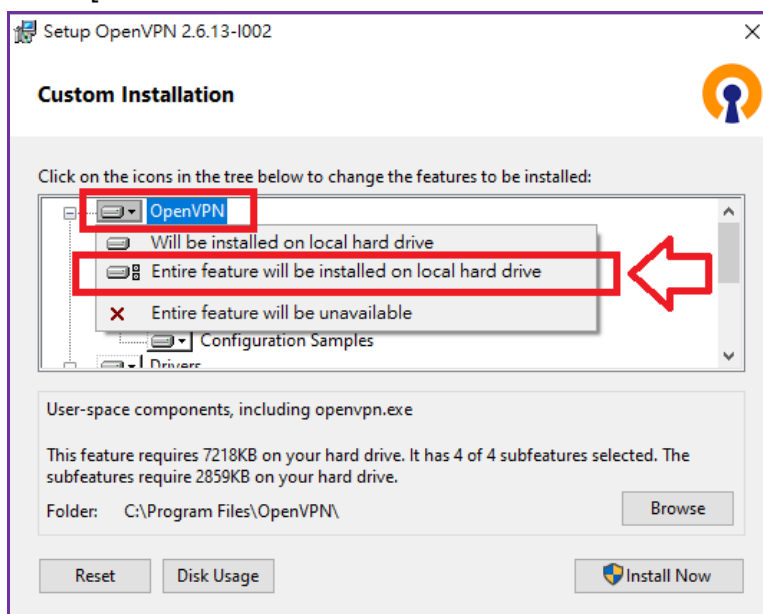
安裝 OpenVPN

請先至 <https://openvpn.net/community-downloads/> 下載 OpenVPN
(此範例下載 OpenVPN-2.6.13-I002-amd64.msi 檔案)

進行安裝時選擇 [Customize]

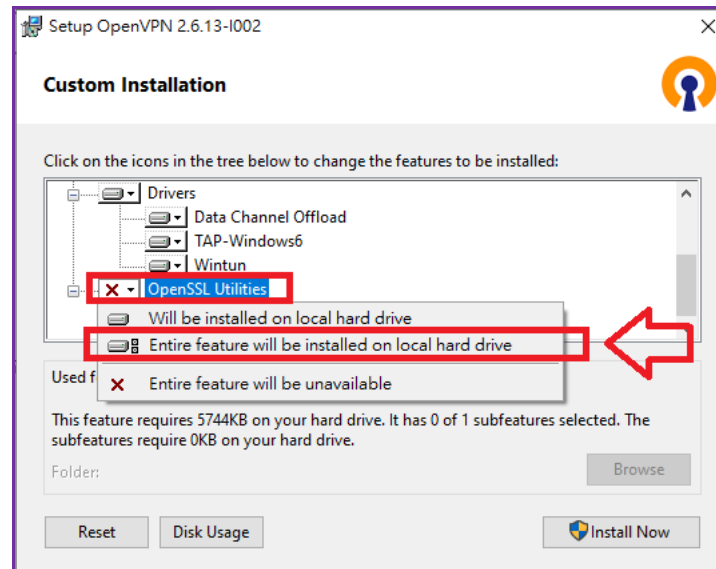


對 [OpenVPN] 項目選擇 [Entire feature will be installed on local hard drive]



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對 [OpenSSL Utilities] 項目選擇 [Entire feature will be installed on local hard drive] 並進行安裝



安裝完畢後預設情況下，OpenVPN 會安裝到 C:\Program Files\OpenVPN

建立 OpenVPN Server

接著，請用系統管理員權限打開命令提示字元，依序輸入下列指令：

[產生 OpenVPN Server 金鑰與憑證]

- (1)
cd "C:\Program Files\OpenVPN\easy-rsa"
- (2)
EasyRSA-Start.bat
- (3)
./easyrsa init-pki

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(9)

./easyrsa sign-req client UA-5231

```
EasyRSA Shell
# ./easyrsa sign-req client UA-5231
Please check over the details shown below for accuracy. Note that this request
has not been cryptographically verified. Please be sure it came from a trusted
source or that you have verified the request checksum with the sender.
You are about to sign the following certificate:

Requested CN:      'UA-5231'
Requested type:    'client'
Valid for:         '825' days

subject=
  commonName      = UA-5231

Type the word 'yes' to continue, or any other input to abort.
Confirm requested details: yes

Using configuration from C:/Program Files/OpenVPN/easy-rsa/pki/58dfall17/temp.1.1
Enter pass phrase for C:/Program Files/OpenVPN/easy-rsa/pki/private/ca.key:
Check that the request matches the signature
Signature ok
The Subject's Distinguished Name is as follows
commonName      :ASN.1 12:'UA-5231'
Certificate is to be certified until Jun  8 08:14:06 2027 GMT (825 days)

Write out database with 1 new entries
Database updated
which: no bc in (C:/Program Files/OpenVPN/easy-rsa;C:/Program Files/OpenVPN/easy-rsa/bin;C:\Windows\system32;C:\Windows;C:\Wind
ows\System32\Wbem;C:\Windows\System32\WindowsPowerShell\v1.0\;C:\Windows\System32\OpenSSH\;C:\Program Files\Microsoft SQL Serve
r\Client SDK\ODBC\170\Tools\Binn\;C:\Program Files (x86)\Microsoft SQL Server\150\Tools\Binn\;C:\Program Files\Microsoft SQL Se
rver\150\Tools\Binn\;C:\Program Files\Microsoft SQL Server\150\DTS\Binn\;C:\Program Files (x86)\Microsoft SQL Server\150\DTS\Bi
nn\;C:\Program Files\Azure Data Studio\bin;C:\Program Files\MySQL\MySQL Shell 8.0\bin\;C:\Users\Sun\AppData\Local\Microsoft\Win
dowsApps\;C:\Program Files\OpenVPN\bin\)

Notice
-----
Inline file created:
* C:/Program Files/OpenVPN/easy-rsa/pki/inline/private/UA-5231.inline

Notice
-----
Certificate created at:
* C:/Program Files/OpenVPN/easy-rsa/pki/issued/UA-5231.crt
```

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[OpenVPN 伺服器配置]

請至 <https://www.icpdas.com/tw/faq/index.php?model=UA-5231#988>

下載 FAQ-Dev-010 的附檔

打開記事本，編輯下載附檔其中的 **server.ovpn** 檔，

可依需求修改 server 10.8.0.0 255.255.255.0

例如：下圖藍底字，亦可不修改，此處為定義 OpenVPN 的私有子網路(範圍)和子網路遮罩。

```
port 1194
proto tcp
dev tap
ca "C:\\Program Files\\OpenVPN\\easy-rsa\\pki\\ca.crt"
cert "C:\\Program Files\\OpenVPN\\easy-rsa\\pki\\issued\\server.crt"
key "C:\\Program Files\\OpenVPN\\easy-rsa\\pki\\private\\server.key"
dh "C:\\Program Files\\OpenVPN\\easy-rsa\\pki\\dh.pem"
server 10.8.0.0 255.255.255.0
client-to-client
cipher AES-128-CBC
auth SHA1
data-ciphers AES-256-GCM:AES-128-GCM:AES-128-CBC
topology subnet
ifconfig-pool-persist "C:\\Program Files\\OpenVPN\\config\\ipp.txt"
keepalive 10 120
persist-key
persist-tun
status "C:\\Program Files\\OpenVPN\\config\\openvpn-status.log"
```

然後將 server.ovpn 放至 C:\\Program Files\\OpenVPN\\config\\ 下面

接著，用系統管理員權限打開 PowerShell (設定 OpenVPN 伺服器的防火牆規則)，輸入以下指令：

(1)

```
New-NetFirewallRule -DisplayName "AllowOpenVPN-In-UDP" -Direction Inbound -Protocol UDP -LocalPort 1194 -Action Allow
```

(2)

```
New-NetFirewallRule -DisplayName "AllowOpenVPN-In-TCP" -Direction Inbound -Protocol TCP -LocalPort 1194 -Action Allow
```

(3)

```
New-NetFirewallRule -DisplayName "AllowOpenVPN-Out-UDP" -Direction Outbound -Protocol UDP -LocalPort 1194 -Action Allow
```

(4)

```
New-NetFirewallRule -DisplayName "AllowOpenVPN-Out-TCP" -Direction Outbound -Protocol TCP -LocalPort 1194 -Action Allow
```

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接著，使用 PowerShell 命令(將會運行 OpenVPN 服務並更改啟動類型為自動)，輸入以下指令：

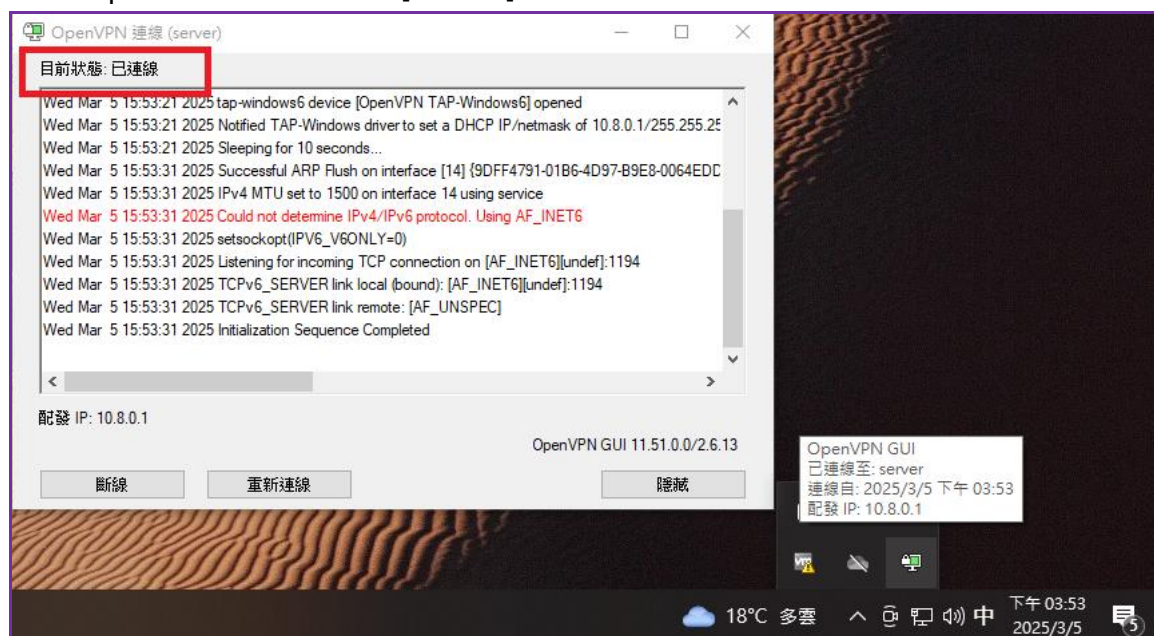
(5)

Set-Service OpenVPNService -startuptype automatic -passthru

(6)

Get-Service OpenVPNService| Start-Service

打開 OpenVPN 確認狀態為[已連線]



在 UA 系列產品上配置 OpenVPN 客戶端

將 UA_OpenVPN_Client.conf 範本檔下載

請至 <https://www.icpdas.com/tw/faq/index.php?model=UA-5231#988>

下載 FAQ-Dev-010 的附檔

打開記事本編輯 UA_OpenVPN_Client.conf

將 122.147.XXX.XXX 修改為需要連接的 OpenVPN Server IP 位址

remote 122.147.XXX.XXX 1194

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將 UA_OpenVPN_Client.conf 上傳至 UA 系列產品網頁

ICP DAS UA-2200/5200 IIoT Communication Server

功能專區 (按這裡)

Usage: CPU 16% Memory 31.8%

系統設定 模組設定 IoT平台設定 轉換設定 進階設定 記錄器設定 即時資訊顯示

系統設定 網路設定

控制端服務設定 時間設定

網路設定

帳號設定 開機設定 COM Port介面設定 網頁及安全設定 EZ-UAQ Utility

網路設定 (LAN1)

連線模式 ☒ 指定IP位址 ☐ 自動取得IP位址(DHCP)

IP 192 168 85 100

遮罩 255 255 0 0

閘道 192 168 1 1

儲存

VPN

OpenVPN ☒ 啟用 (3)

IP 10.8.0.2

連接配置檔案 UA_OpenVPN_Client.conf 上傳 (1)

帳號

密碼

儲存 (2)