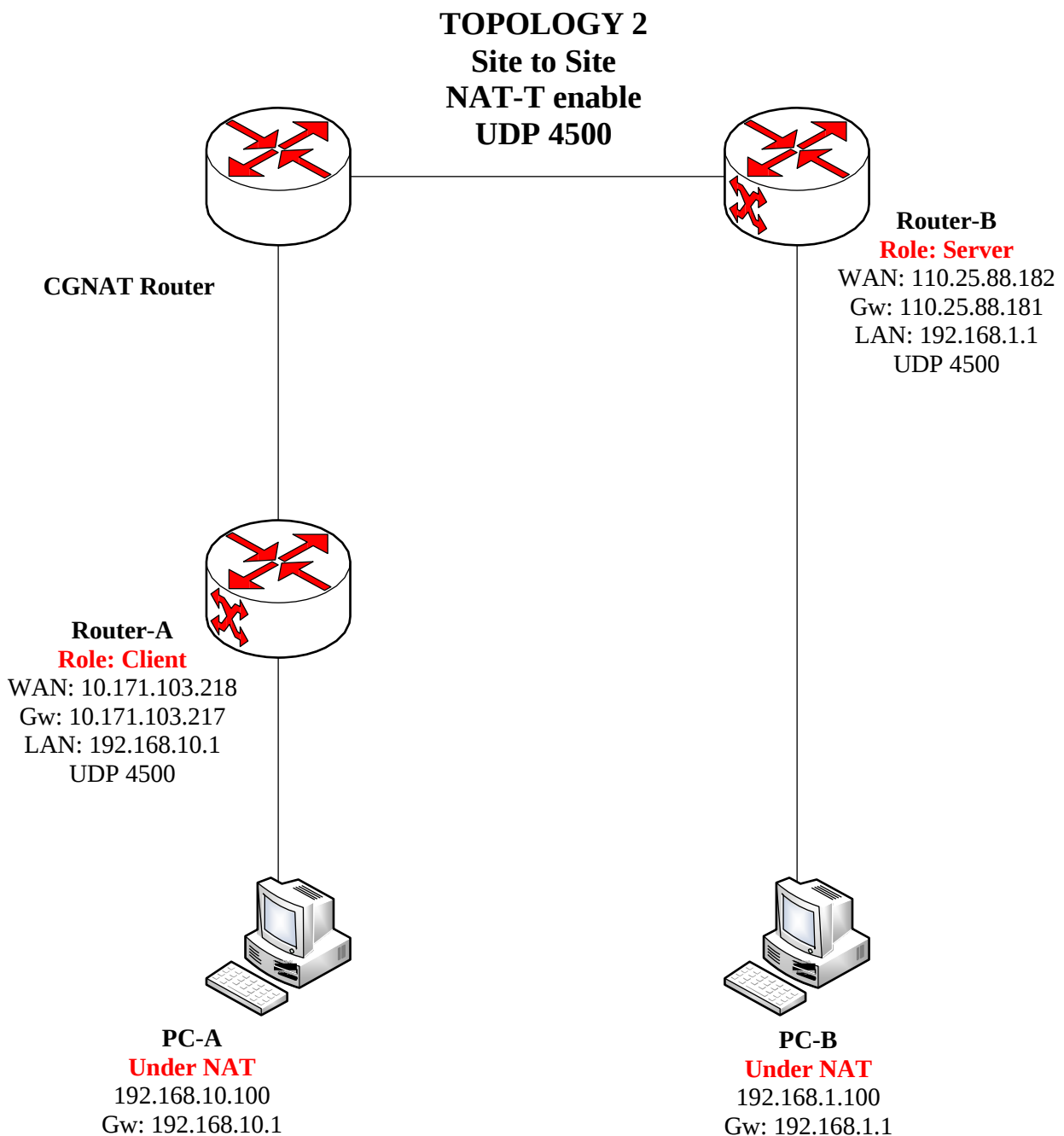


Creating IPsec VPN over LTE with DYDNS on Xentino MR4xx Series

Subject	Creating IPsec VPN over LTE with DYDNS on Xentino MR4xx Series Quick Guide
Related Models	All Xentino MR4xx Series
Doc Rev	0001
FW Version	All

Topology

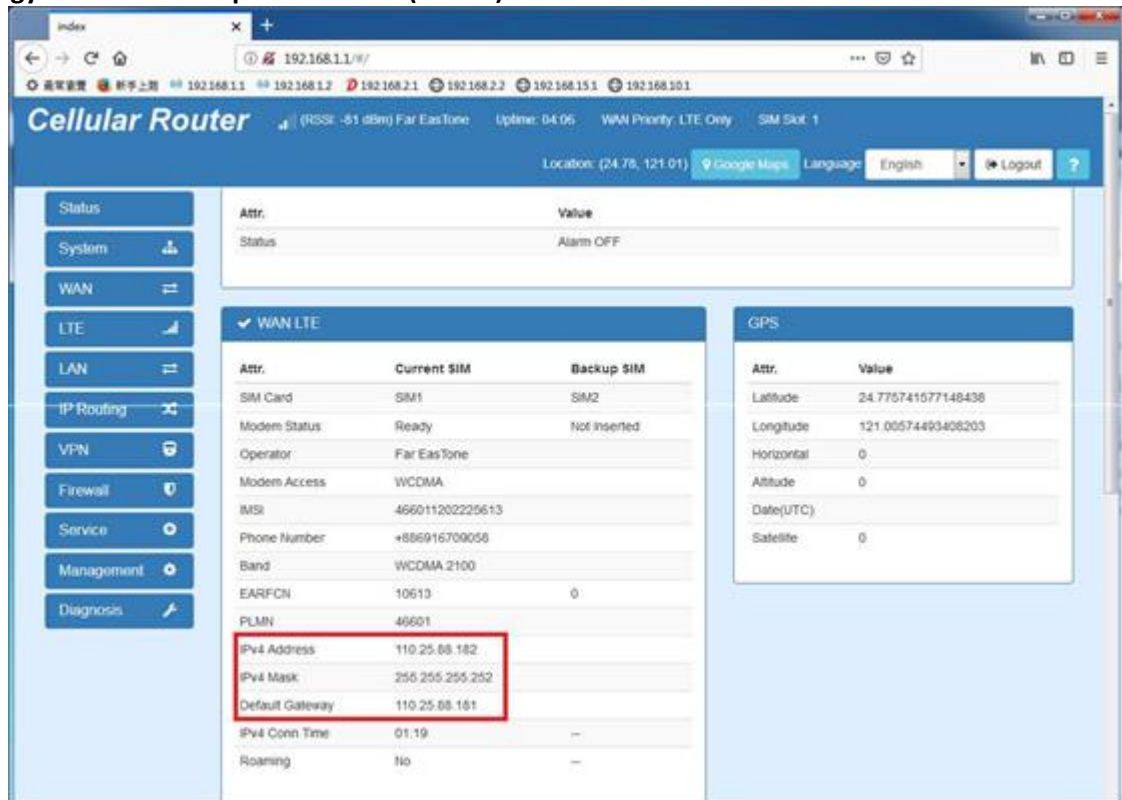


Creating IPsec VPN over LTE with DYDNS on Xentino MR4xx Series

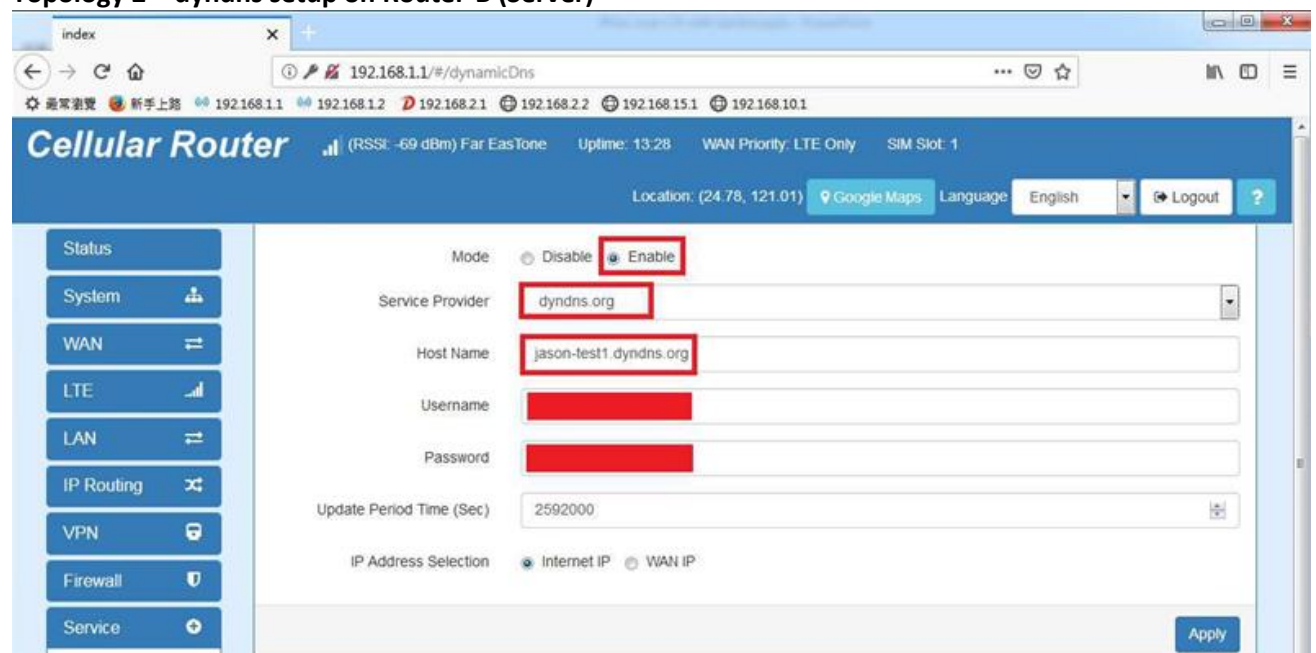
Environment requirement

1. A mobile SIM provide public IP as server
2. A mobile SIM provide private IP by CGNAT as client
3. 2xMR4xx devices
4. DynDNS account (replaceable by other dynamic DNS)
5. 2xPC for operation

Topology 2 – mobile setup on Router-B (Server)

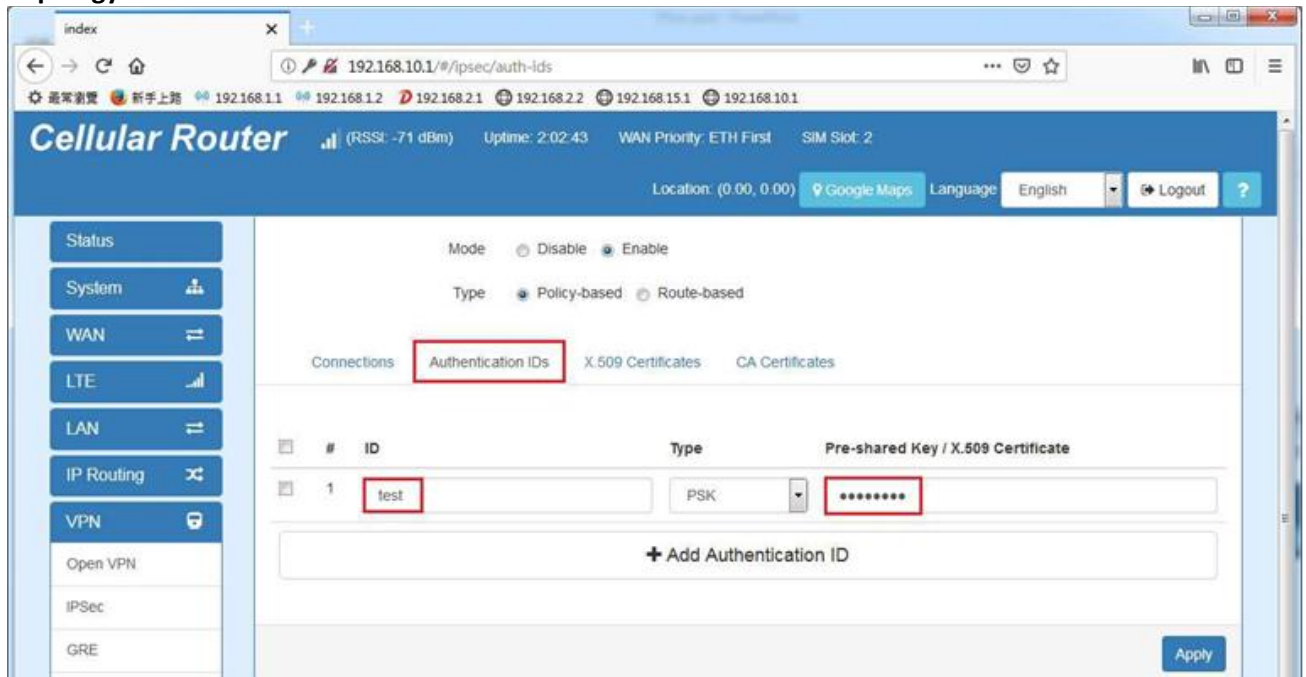


Topology 2 – dyndns setup on Router-B (Server)

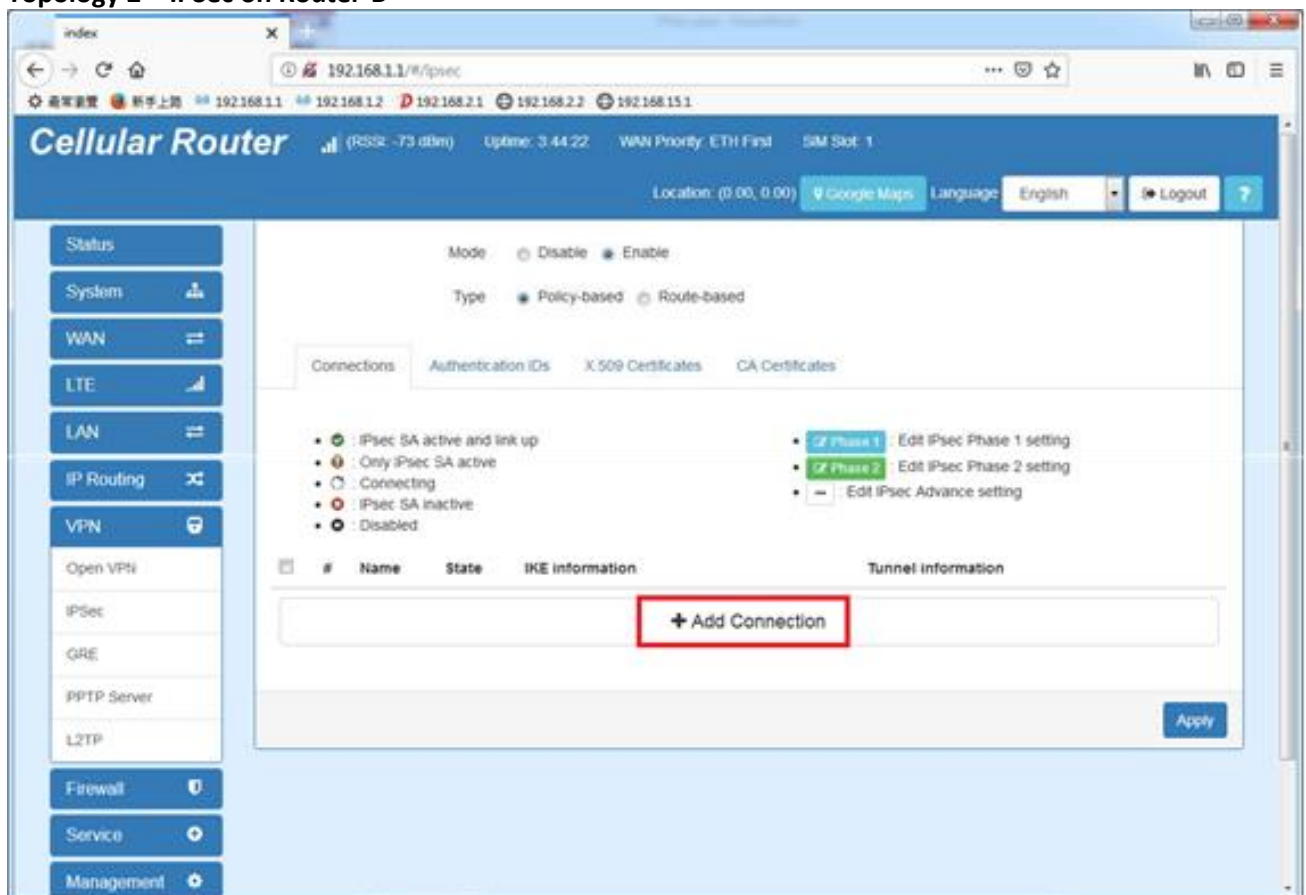


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Topology 2 – IPsec PSK on Router-B

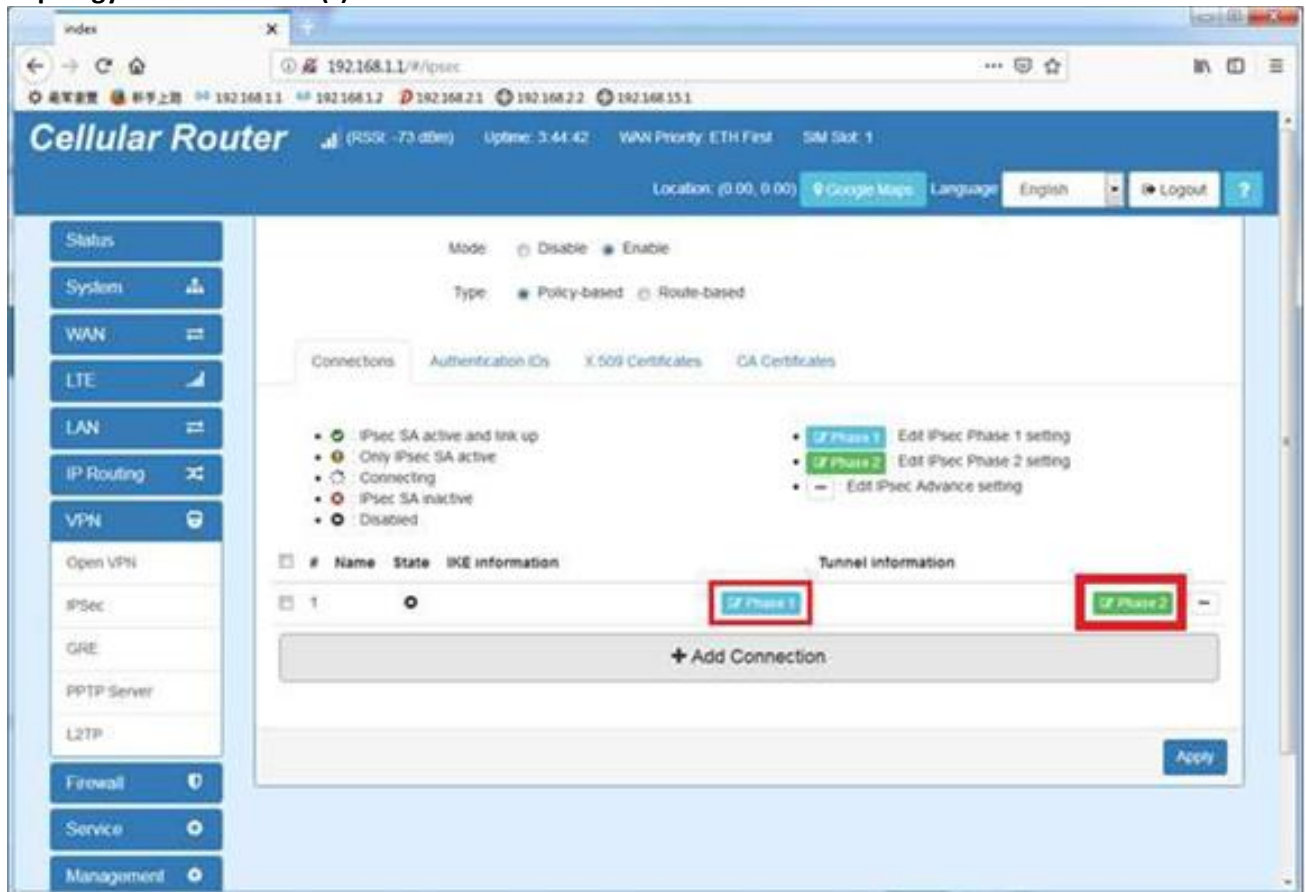


Topology 2 – IPsec on Router-B

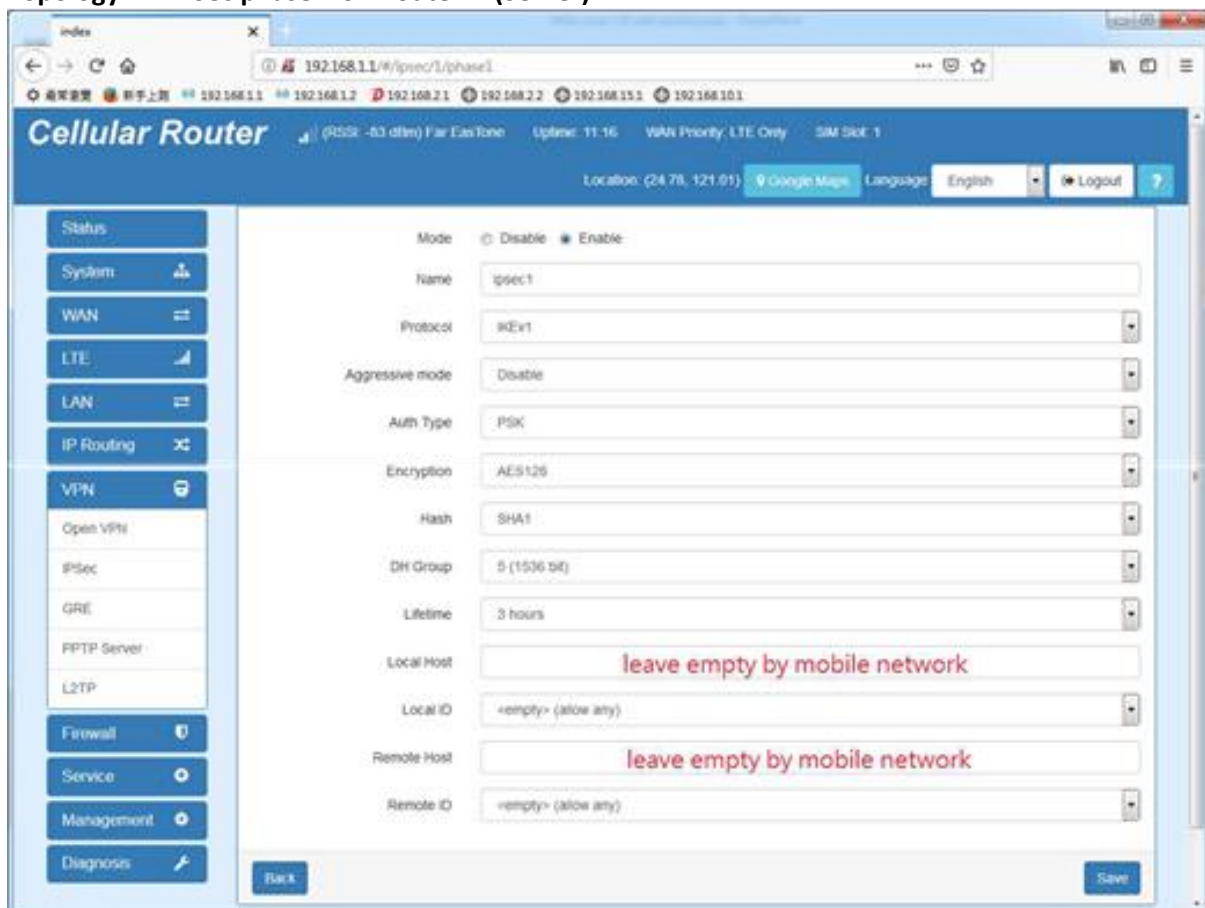


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Topology 2 – IPsec tunnel(s) on Router-B

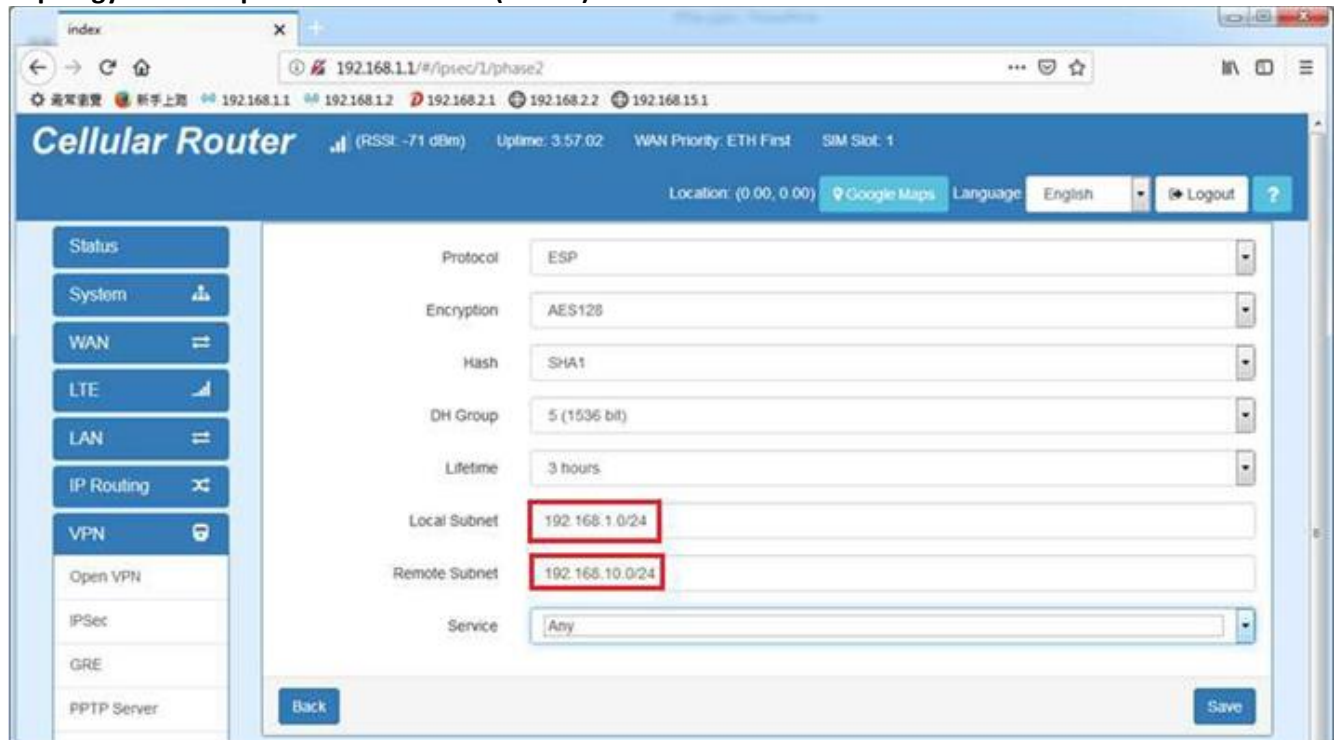


Topology 2 – IPsec phase 1 on Router-B (Server)

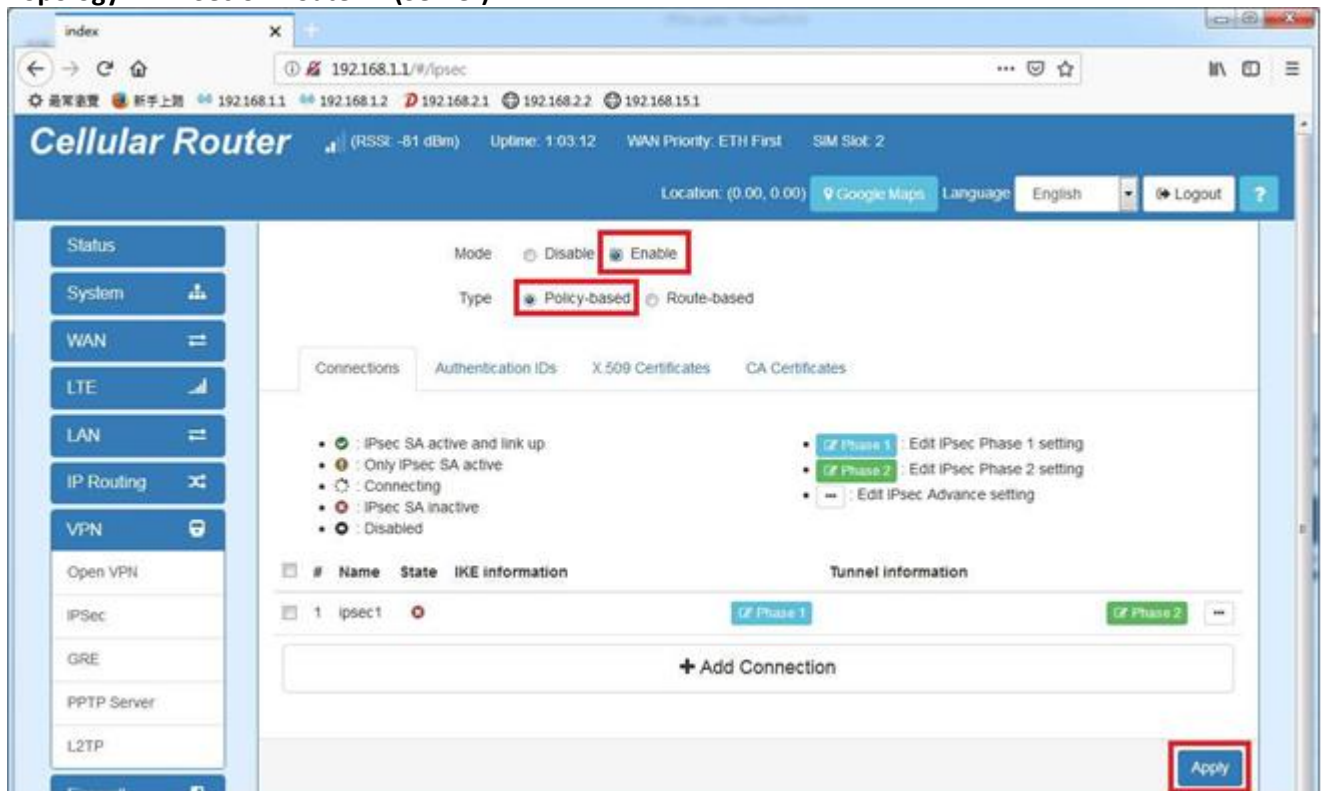


Creating IPsec VPN over LTE with DYDNS on Xentino MR4xx Series

Topology 2 – IPsec phase 2 on Router-B (Server)



Topology 2 – IPsec on Router-B (Server)



Creating IPsec VPN over LTE with DYDNS on Xentino MR4xx Series

Topology 2 – mobile setup on Router-A (Client)

The screenshot shows the 'Cellular Router' web interface. The left sidebar contains navigation links: Status, System, WAN, LTE, LAN, IP Routing, VPN, Firewall, Service, Management, and Diagnosis. The main content area is divided into several sections:

- Attr. Value** table:

Attr.	Value
Status	Alarm OFF
- WAN LTE** section with a table:

Attr.	Current SIM	Backup SIM
SIM Card	SIM1	SIM2
Modem Status	Ready	Not inserted
Operator	Chungwa Telecom	
Modem Access	GSM	
MSIS	466024200307730	
Phone Number		
Band	GSM 900	
EARFCN	87	0
PLMN	46605	
IPv4 Address	10.171.103.218	
IPv4 Mask	255.255.255.252	CGNAT
Default Gateway	10.171.103.217	
IPv4 Conn Time	21.18	--
Roaming	No	--
- GPS** section with a table:

Attr.	Value
Latitude	24.774301528930664
Longitude	121.00650024414062
Horizontal	0
Altitude	0
Date(UTC)	
Satellite	0

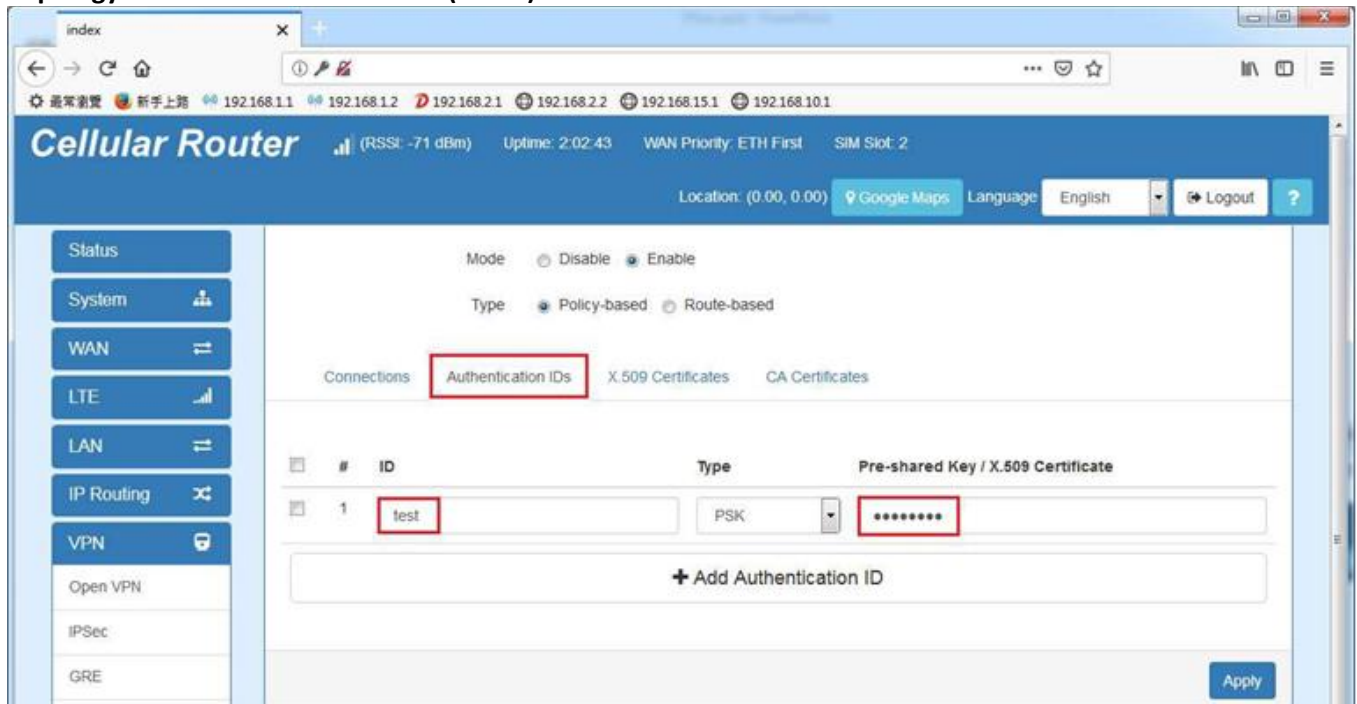
Topology 2 – LAN setup on Router-A (Client)

The screenshot shows the 'Cellular Router' web interface for LAN IPv4 configuration. The left sidebar is partially visible. The main content area includes:

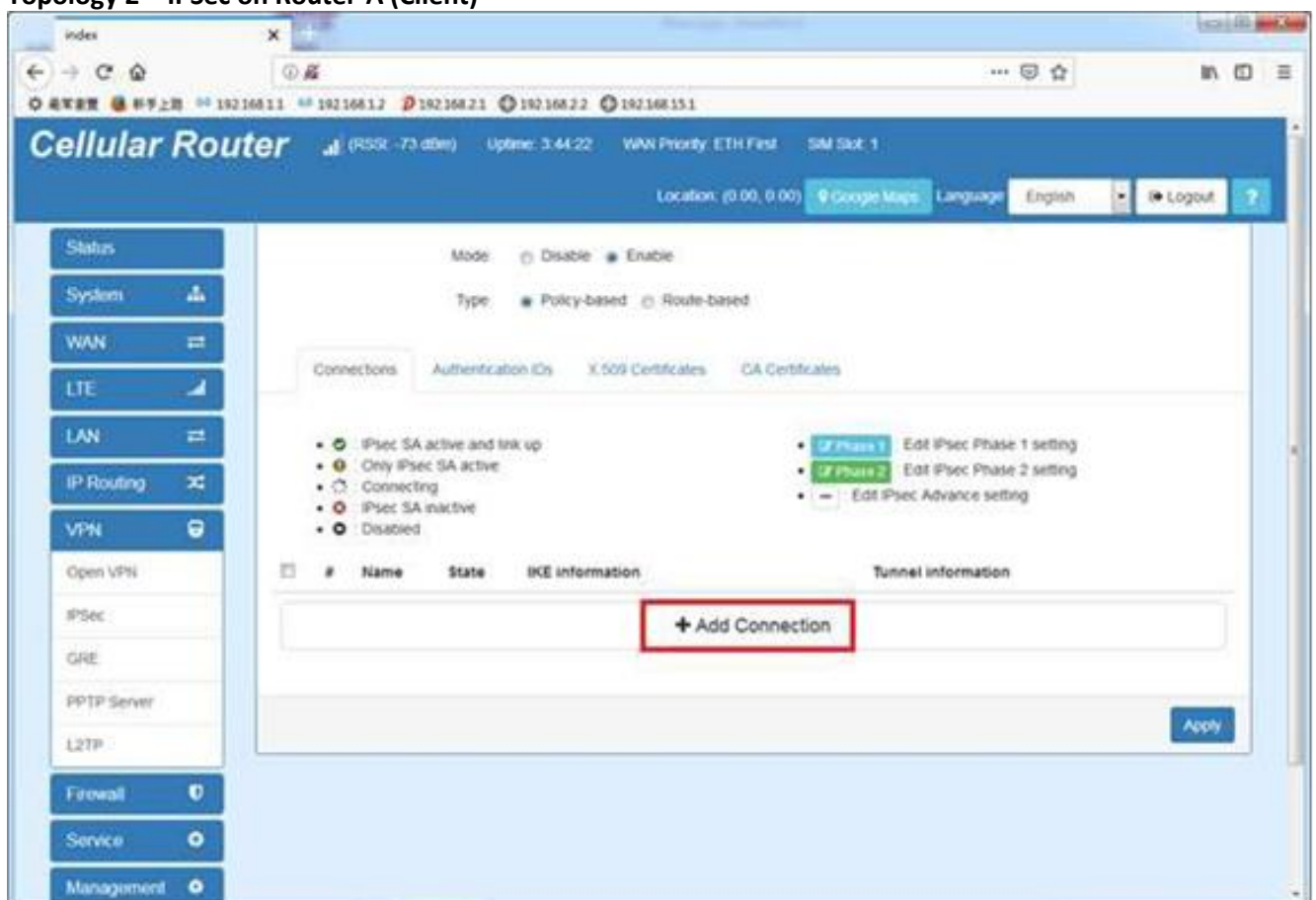
- IP Address** field: 192.168.10.1
- IP Mask** field: 255.255.255.0
- DHCP Server Configuration** section:
 - ☒ DHCP Server Configuration
 - IP Address Pool** From: 192.168.10.2 To: 192.168.10.254
- Apply** button

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Topology 2 – IPsec PSK on Router-A (Client)

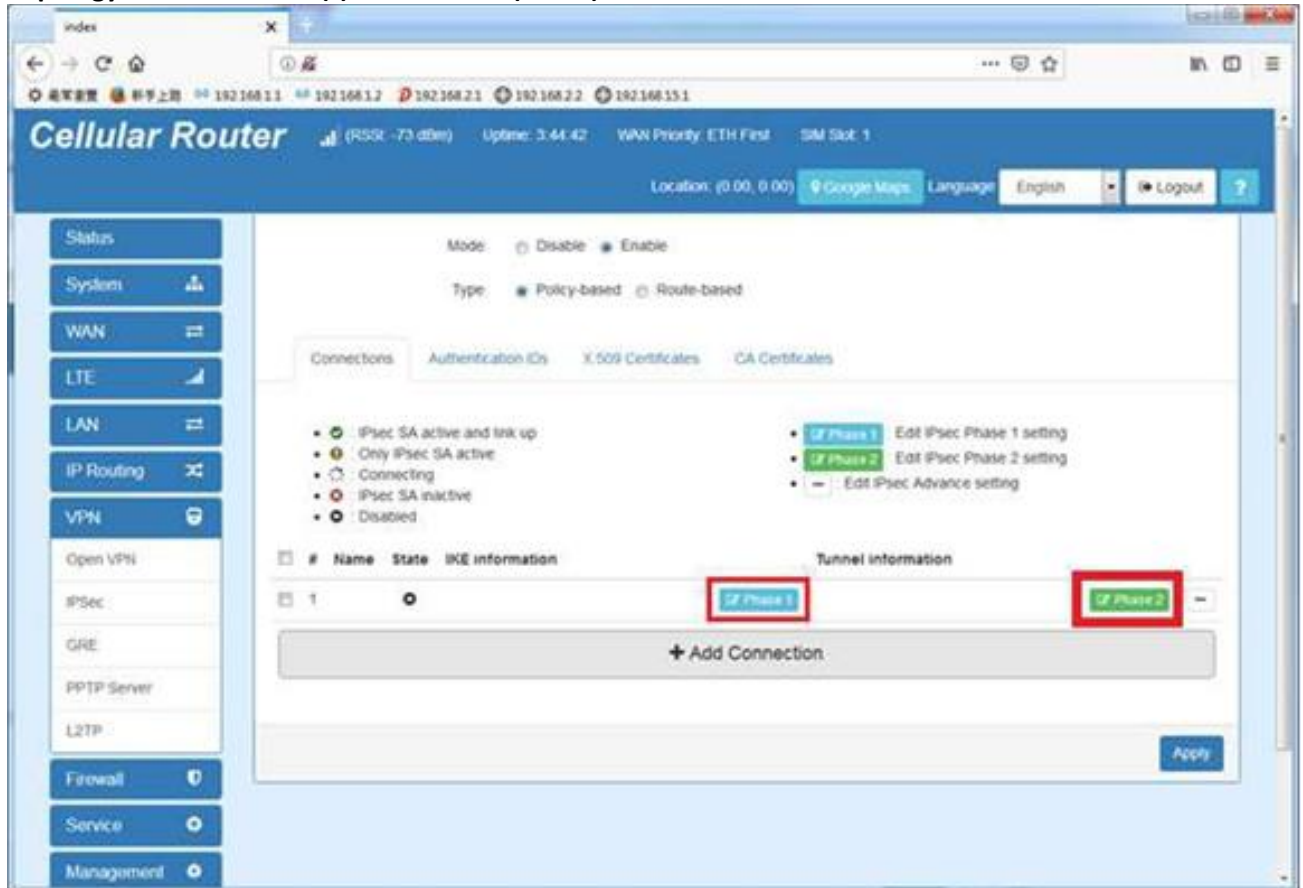


Topology 2 – IPsec on Router-A (Client)

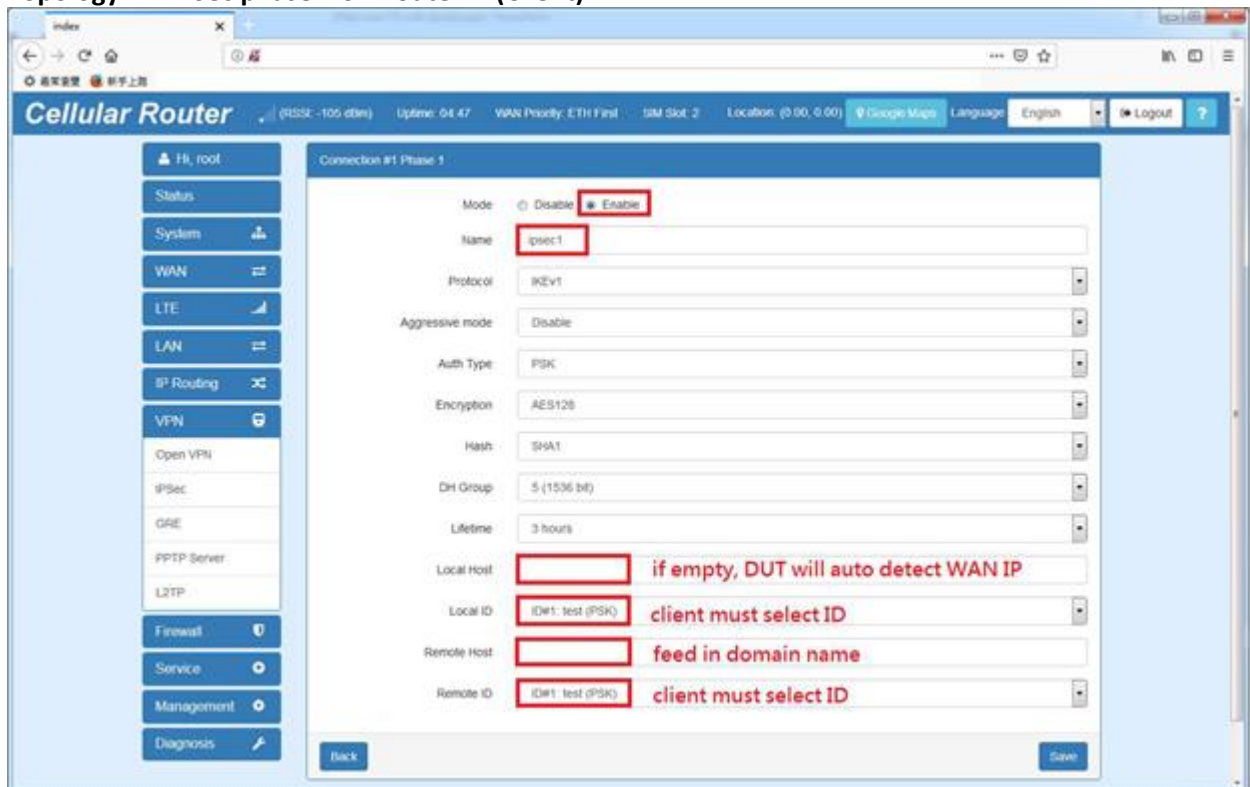


Creating IPsec VPN over LTE with DYDNS on Xentino MR4xx Series

Topology 2 – IPsec tunnel(s) on Router-A (Client)



Topology 2 – IPsec phase 1 on Router-A (Client)



Creating IPsec VPN over LTE with DYDNS on Xentino MR4xx Series

Topology 2 – IPsec phase 2 on Router-A (Client)

The screenshot shows the 'IPsec' configuration page for a Cellular Router. The left sidebar contains a menu with 'Status', 'System', 'WAN', 'LTE', 'LAN', 'IP Routing', 'VPN', 'Open VPN', 'IPsec', 'GRE', and 'PPTP Server'. The main content area is titled 'IPsec' and shows the 'Phase 2' configuration. The settings are as follows:

- Protocol: ESP
- Encryption: AES128
- Hash: SHA1
- DH Group: 5 (1536 bit)
- Lifetime: 3 hours
- Local Subnet: 192.168.10.0/24
- Remote Subnet: 192.168.1.0/24
- Service: Any

At the bottom of the form are 'Back' and 'Save' buttons. The top of the interface shows the router's status: 'Cellular Router', 'RSSI: -69 dBm', 'Uptime: 11:50', 'WAN Priority: ETH First', and 'SIM Slot: 2'.

Topology 2 – IPsec on Router-A (Client)

The screenshot shows the 'IPsec' configuration page for a Cellular Router, specifically the 'Phase 1' settings. The left sidebar is the same as in the previous screenshot. The main content area is titled 'IPsec' and shows the 'Phase 1' configuration. The settings are as follows:

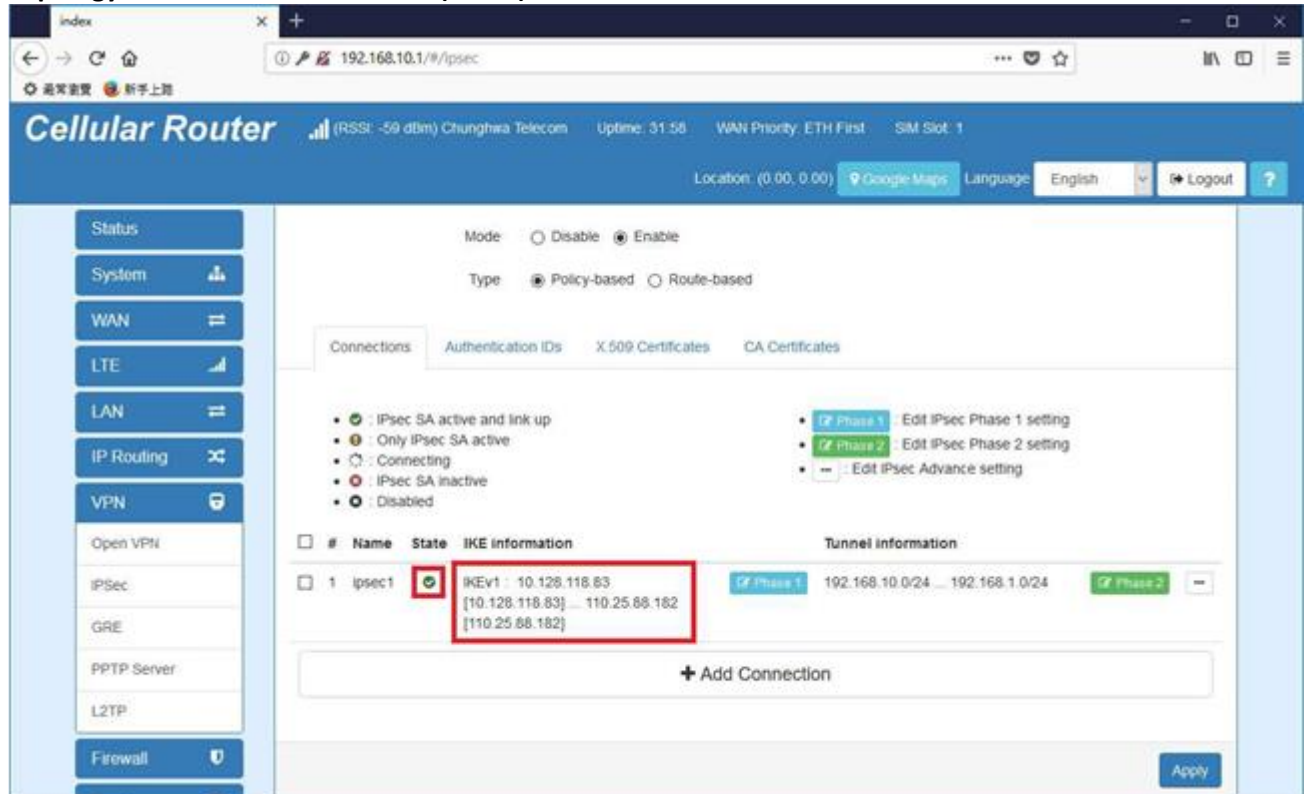
- Mode: ☒ Enable
- Type: ☒ Policy-based

Below the settings are tabs for 'Connections', 'Authentication IDs', 'X.509 Certificates', and 'CA Certificates'. The 'Connections' tab is active, showing a list of connections. The first connection is 'ipsec1' with a state of 'Connecting'. The 'Add Connection' button is at the bottom.

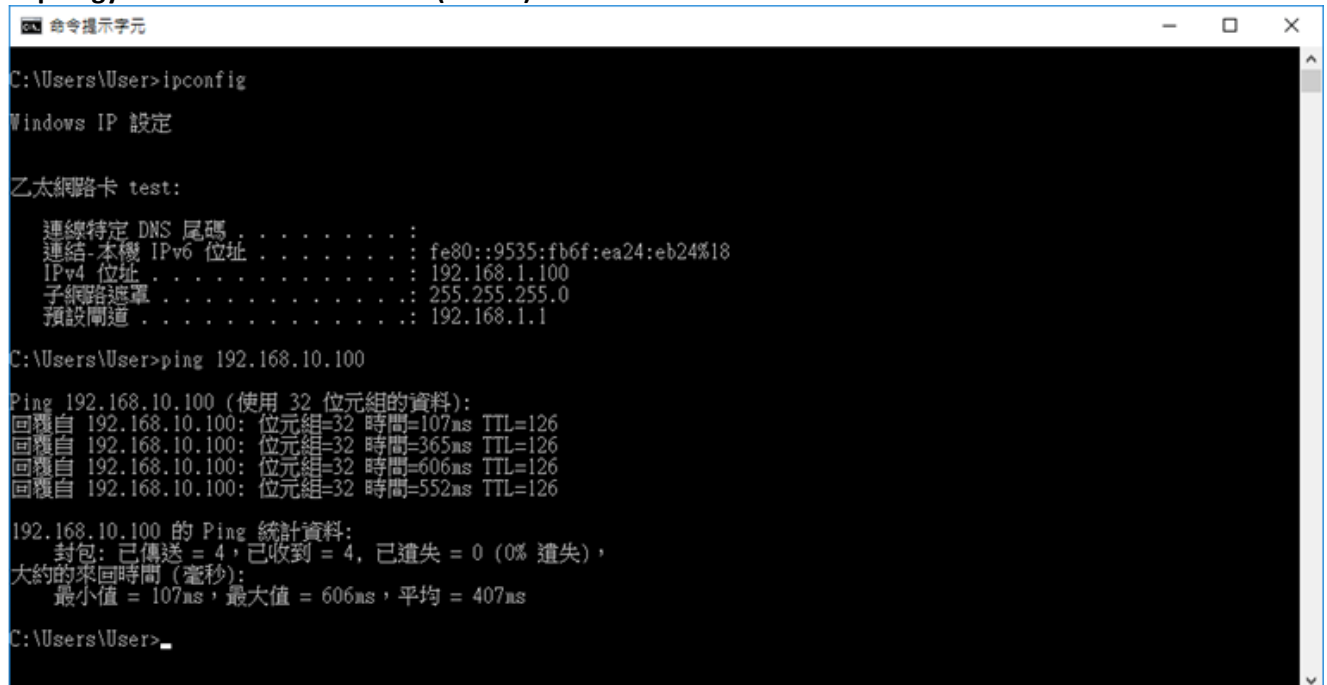
At the bottom of the form is an 'Apply' button. The top of the interface shows the router's status: 'Cellular Router', 'RSSI: -61 dBm', 'Uptime: 1:03:12', 'WAN Priority: ETH First', and 'SIM Slot: 2'.

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Topology 2 – tunnel status on PC-A (Client)

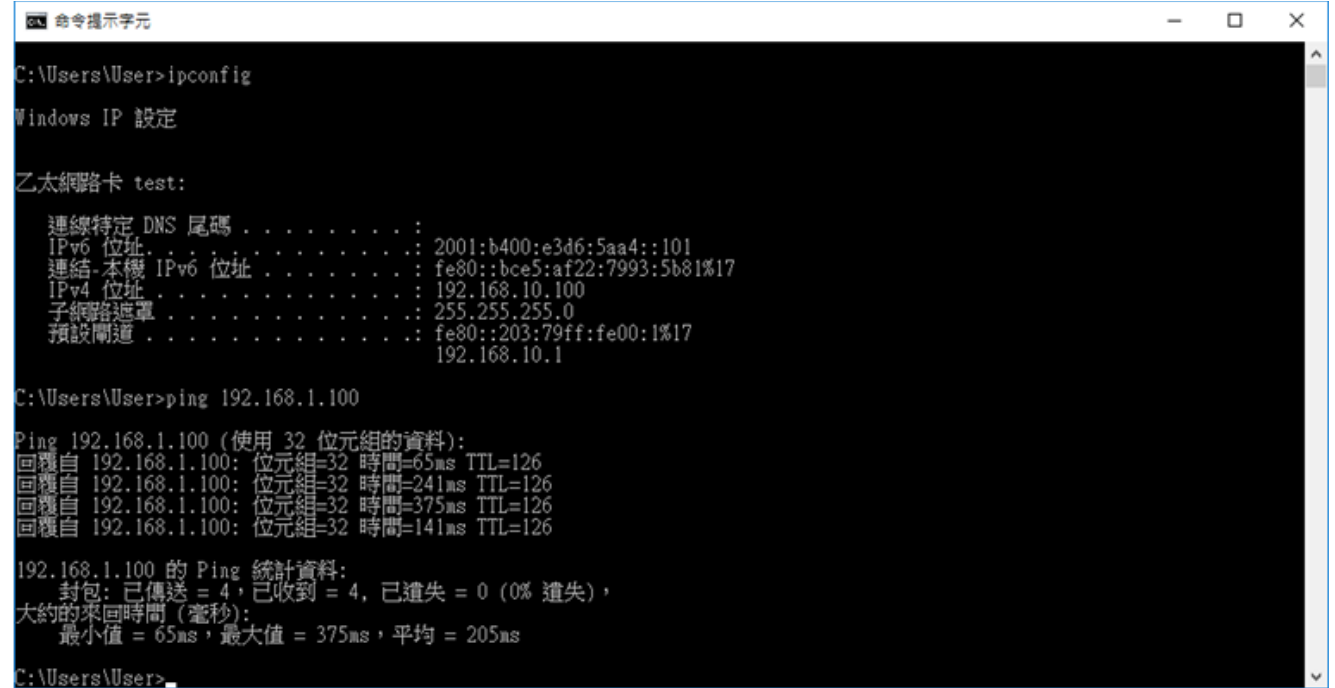


Topology 2 – Check tunnel on PC-B (Server)



Creating IPsec VPN over LTE with DYDNS on Xentino MR4xx Series

Topology 2 – Check tunnel on PC-A (Client)



```
C:\Users\User>ipconfig

Windows IP 設定

以太网网卡 test:

    連線特定 DNS 尾碼 . . . . . :
    IPv6 位址 . . . . . : 2001:b400:e3d6:5aa4::101
    連結-本機 IPv6 位址 . . . . . : fe80::bce5:af22:7993:5b81%17
    IPv4 位址 . . . . . : 192.168.10.100
    子網路遮罩 . . . . . : 255.255.255.0
    預設閘道 . . . . . : fe80::203:79ff:fe00:1%17
                          192.168.10.1

C:\Users\User>ping 192.168.1.100

Ping 192.168.1.100 (使用 32 位元組的資料):
回覆自 192.168.1.100: 位元組=32 時間=65ms TTL=126
回覆自 192.168.1.100: 位元組=32 時間=241ms TTL=126
回覆自 192.168.1.100: 位元組=32 時間=375ms TTL=126
回覆自 192.168.1.100: 位元組=32 時間=141ms TTL=126

192.168.1.100 的 Ping 統計資料:
    封包: 已傳送 = 4, 已收到 = 4, 已遺失 = 0 (0% 遺失),
    大約的來回時間 (毫秒):
        最小值 = 65ms, 最大值 = 375ms, 平均 = 205ms

C:\Users\User>
```