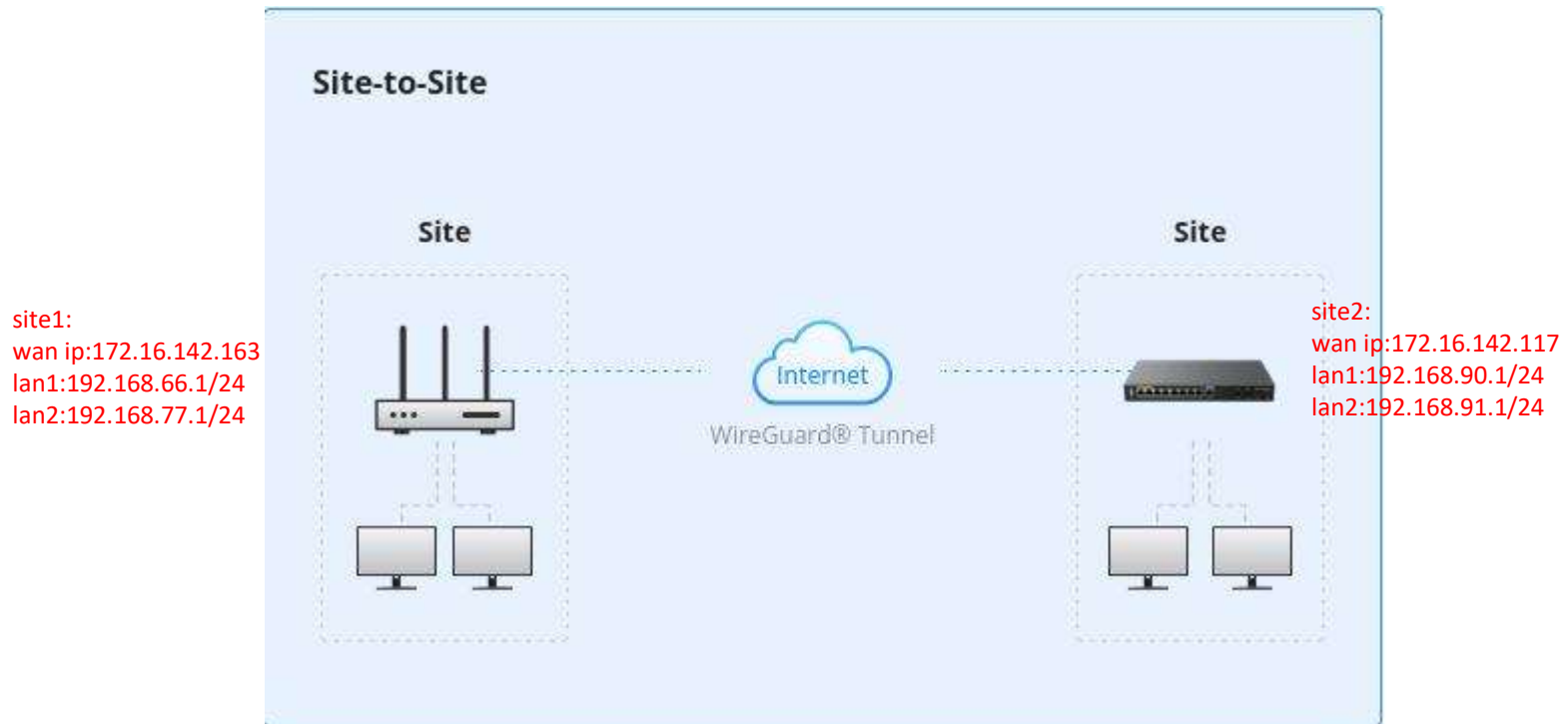


Site-To-Site Wireguard VPN Application Guide

We assume that there are two GCC devices (named site1 site2), and a wireguard connection needs to be established between them.



Step1:setup wireguard interface on site1-GCC

Go to site1-GCC VPN->Wireguard , add a wireguard interface as below.

Networking

Overview

Network Settings

VPN

PPTP

IPSec

OpenVPN®

L2TP

WireGuard®

Remote Users

Routing

Traffic Management

Access Control

External Access

Maintenance

System Settings

WireGuard® > Edit WireGuard®

*Name: wireguard-site1 (1-64 characters)

Enable:

*Interface: WAN1 (WAN) (select the WAN which wireguard service depends on)

*Monitoring Port: 51820 (Default 51820, range 1024-65535)

*Local IP Address: 10.10.10.1 (a virtua ip ddress is recommended to use)

*Subnet Mask: 255.255.255.0 (Only support input range 255.255.255.0-255.255.255.255 is supported)

*Destination: All

*Private Key: CNa9+Q+JQCN+qxzJhzZstJlobTRxdXgAFGNT3q6jdn0= (44 bits)

One-click generation

Public Key: TmZg26NjTPqg+uhPoizgaWllVcslOoPtpR5Z8uCGvc=

Copy

*Maximum Transmission Unit (MTU): 1420 (Default 1420, range 576-1440)

Cancel Save

Step2:setup wireguard interface on site2-GCC

Go to site2-GCC VPN->Wireguard , add a wireguard interface.

The screenshot displays the Mikrotik WinBox interface for configuring a WireGuard interface. The left sidebar shows the 'Networking' menu with 'WireGuard®' selected. The main panel is titled 'WireGuard® > Edit WireGuard®' and contains the following configuration fields:

- *Name:** WG-site2 (highlighted with a red box)
- Status:** Enabled (toggle switch)
- *Interface:** WAN2 (WAN) (highlighted with a red box and a note: "select the WAN which wireguard service depends on")
- *Monitoring Port:** 51820 (Default: 51820, range 1024-65536)
- *Local IP Address:** 10.20.20.1 (highlighted with a red box and a note: "local ip of site2 WG, an virtual ip is recommended also")
- *Subnet Mask:** 255.255.255.0 (Only support input range 255.255.255.0-255.255.255.0 supported)
- *Destination:** All X
- *Private Key:** gCc8Tut2hVXuykXQECsej58ywcDR1sjMSq7H0wy1n4= (44 bits)
One-click generation button
- Public Key:** ttyLW5fWgKwyjEOrvI7j7vbiEGWZvKNBO+9MOBuTtY= (Copy button)
- *Maximum Transmission Unit (MTU):** 1420 (Default: 1420, range 570-1440)

At the bottom, there are 'Cancel' and 'Save' buttons.

Step3: setup wireguard peer on site1-GCC

Go to site1-GCC VPN->Wireguard ->Peers, add a peer item as below.

Note:The pre-shared key is optional. If you want to use the psk, keep it the same on both sites

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System Settings

WireGuard® : Edit Local Peer

*Name: add-peer-on-Site1 (1-64 characters)

Enable:

*WireGuard: wireguard-site1 (choose the wireguard setup in step1)

Public Key: ttyjLWSfWgKwyjEOnvi7j7vbiEGWZvKNBD+9MOBuTIY (go to site2-GCC wireguard page , copy its Public Key and paste here.)

Pre-Shared Key: (44 bits)

One-click generation

*Allowed IP Address:

- 10.20.20.1 / 32 (The local ip of site2-GCC wireguard interface)
- 192.168.90.0 / 24 (VLAN1 of site2-GCC)
- 192.168.91.0 / 24 (VLAN2 of site2-GCC)

Add +

Endpoint Address: 172.16.142.117 (The WAN2 ip of site2-GCC (because site2 wireguard based on WAN2))

Endpoint Port: 51820 (The Wireguard Monitoring Port of site2-GCC)

*Persistent Keepalive(Sec): 25 (Default 25, range 1-65535)

Cancel Save

We are now editing the peer on site1-GCC!

Step4: setup peer on site2-GCC

Go to site2-GCC VPN->Wireguard ->Peers, add a peer item as below.

Notes:The pre-shared key is optional. If you want to use the psk, keep it the same on both sites

WireGuard® > Edit Local Peer

Name: peer-on-Site2-GCC (1-64 characters)

Status:

WireGuard: WG-site2 (choose the wireguard setup in step2)

Public Key: TmZg26NjTPqg+uhPotzgaWiltVcsiOoPtpR5Z8uCGVo= (go to site1-GCC wireguard page , copy its Public Key and paste here.)

Pre-Shared Key: (44 bits)

One-click generation

Allowed IP Address:

- 10.10.10.1 / 32 (The local ip of site1-GCC wireguard interface)
- 192.168.66.0 / 24 (VLAN6 of site1-GCC)
- 192.168.77.0 / 24 (VLAN7 of site1-GCC)

Endpoint Address: 172.16.142.163 (The WAN1 ip of site1-GCC (because site1 wireguard based on WAN1))

Endpoint Port: 51820 (The Wireguard Monitoring Port of site1-GCC)

Persistent Keepalive[Sec]: 25 (Default 25, range 1-65535)

Buttons: Cancel, Save

We are now editing the peer on site2 !

Setup Result

The handshake succeeds if all configurations are correct. And we can see the Latest Handshake Time displayed on the peer page. This time will be renewed after each handshake.

The screenshot shows the 'Networking' dashboard with the 'WireGuard®' section selected. The 'Peers' tab is active, displaying a table of peers. A red box highlights the 'Peers' tab and the 'Last Handshake' column. The text 'site1 peer:' is written in red next to the 'Peers' tab. The table contains one peer: 'add-peer-on-Site1' with a status of 'Enabled', generation mode 'Add Manually', WireGuard name 'wireguard-site1', endpoint address '172.16.142.117:51820', and a last handshake time of '54s ago'. The actual endpoint address is also '172.16.142.117:51820'. The interface includes 'Add' and 'Delete' buttons, a search bar, and a 'Total: 1' indicator.

Name	Enable	Generation Mode	WireGuard®	Endpoint Address : Port	Last Handshake	Actual Endpoint Address : Port	Operations
add-peer-on-Site1	<input checked="" type="checkbox"/>	Add Manually	wireguard-site1	172.16.142.117:51820	54s ago	172.16.142.117:51820	

The screenshot shows the 'Networking' dashboard with the 'WireGuard®' section selected. The 'Peers' tab is active, displaying a table of peers. A red box highlights the 'Peers' tab and the 'Last Handshake' column. The text 'site2 peer:' is written in red next to the 'Peers' tab. The table contains one peer: 'peer-on-Site2-GCC' with a status of 'Enabled', generation mode 'Add Manually', WireGuard name 'WG-site2', endpoint address '172.16.142.163:51820', and a last handshake time of '1min ago'. The actual endpoint address is also '172.16.142.163:51820'. The interface includes 'Add' and 'Delete' buttons, a search bar, and a 'Total: 1' indicator.

Name	Status	Generation Mode	WireGuard®	Endpoint Address : Port	Last Handshake	Actual Endpoint Address : Port	Operat
peer-on-Site2-GCC	<input checked="" type="checkbox"/>	Add Manually	WG-site2	172.16.142.163:51820	1min ago	172.16.142.163:51820	