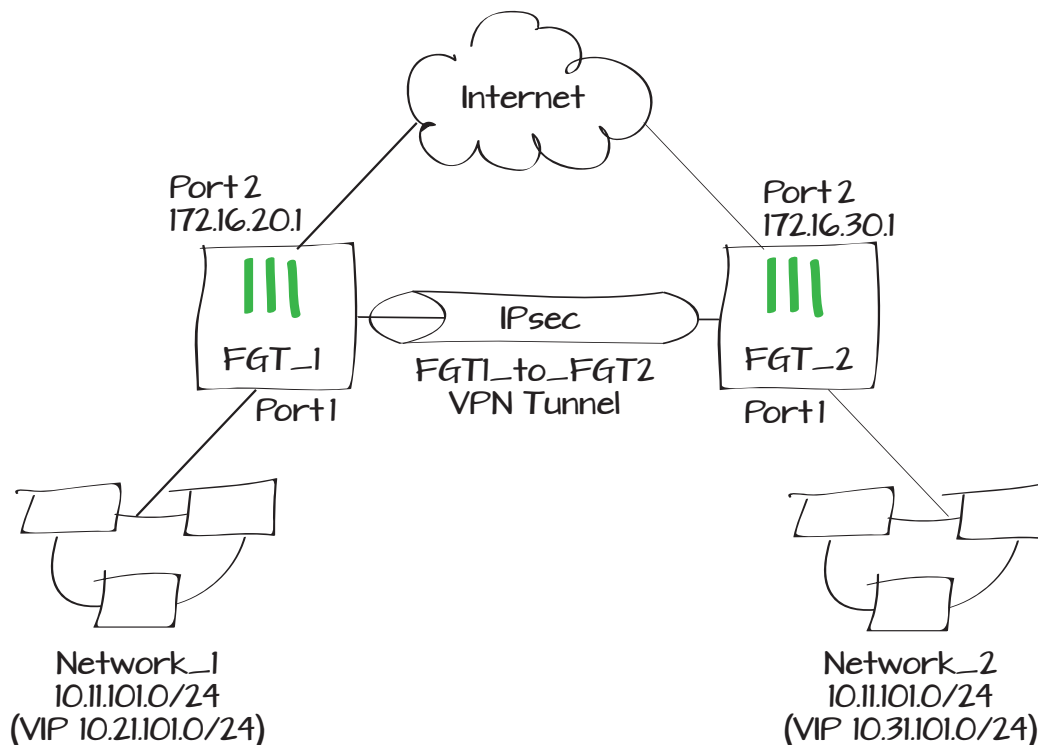


# Creating a VPN with overlapping subnets

This recipe describes how to construct a VPN connection between two networks with overlapping IP addresses in such a way that traffic will be directed to the correct address on the correct network, using Virtual IP addresses and static routes.

1. Creating VPN tunnels between the two FortiGate units
2. Adding the virtual IP range and address
3. Creating inbound and outbound security policies
4. Configuring static routes
5. Repeat the steps on FGT2
6. Results



## Creating VPN tunnels between the two FortiGates

Go to **VPN > IPsec > Auto Key (IKE)**.

Select **Create Phase 1**, and set the **IP Address** to the address used by the internet-facing interface of FGT\_2. Set the **Local Interface** to your internet-facing interface, and enter a **Pre-shared Key**.

Then create the Phase 2, selecting your Phase 1 from the list.

## Adding the virtual IP range and address

Go to **Firewall Objects > Virtual IPs > Virtual IPs**.

You will need to create a Virtual IP range that will be used to redirect the traffic to the correct subnet. Give the VIP an appropriate name, and set the IPsec tunnel interface as the **External Interface**.

Set the **External IP Address** to a range in the subnet you'll be redirecting from (10.21.101.1-10.21.101.254) and the **Mapped IP address** to the internal network range (10.11.101.1-10.11.101.254).

Name	FGT1_to_FGT2
Comments	Write a comment... 0
Remote Gateway	Static IP Address
IP Address	172.16.30.1
Local Interface	wan1
Mode	<input type="radio"/> Aggressive <input checked="" type="radio"/> Main (ID protection)
Authentication Method	Preshared Key
Pre-shared Key	.....

Name	To_FGT2_P2
Comments	Write a comment... 0/255
Phase 1	FGT1_to_FGT2

Name	VPN_VIP
Comments	Write a comment...
Color	[Change]
External Interface	FGT1_to_FGT2
Type	Static NAT
<input type="checkbox"/> Source Address Filter	
External IP Address/Range	10.21.101.1 - 10.21.101.254
Mapped IP Address/Range	10.11.101.1 - 10.11.101.254
<input type="checkbox"/> Port Forwarding	

Now go to **Firewall Objects > Address > Addresses.**

Create a new address, setting the **Type** to **IP Range**, and entering the VIP range of FGT2 (10.31.101.1-10.31.101.254).

## Creating inbound and outbound security policies

Go to **Policy > Policy > Policy.**

Create a firewall policy to handle outbound VPN traffic, with the network-facing interface as the **Incoming Interface**, and the IPsec interface as **Outgoing**. Set the **Destination Address** to the VIP Address Range. Enable NAT.

Create a second security policy to handle inbound VPN traffic, with the IPsec interface as the **Incoming Interface**, network-facing interface as **Outgoing**, and your VIP range as the **Destination Address**. Disable NAT.

Category  Address  IPv6 Address  Multicast Address

Name

Color [Change]

Type

Subnet / IP Range

Interface

Show in Address List

Policy Type  Firewall  VPN

Policy Subtype  Address  User Identity  Device Identity

Incoming Interface

Source Address

Outgoing Interface

Destination Address

Schedule

Service

Action

Enable NAT

Policy Type  Firewall  VPN

Policy Subtype  Address  User Identity  Device Identity

Incoming Interface

Source Address

Outgoing Interface

Destination Address

Schedule

Service

Action

Enable NAT

## Configuring static routes

Go to **Router > Static > Static Routes**.

Create a new Static Route, with the **Destination IP** as 10.31.101.0/24. For your **Device**, select your FGT1\_to\_FGT2 VPN interface. Set the Distance to lower than the default of 10, to prioritize this route.

## Repeat these steps on FGT2

First, create the Phase 1 on FGT\_2, using FGT\_1's internet-facing interface IP for the Phase 1 IP Address, and the FGT\_2's internet-facing interface as **Local Interface**.

Create the Phase 2 for FGT\_2.

Destination IP/Mask	<input type="text" value="10.31.101.0/24"/>
Device	<input type="text" value="FGT1_to_FGT2"/>
Distance	<input type="text" value="5"/> (1-255, Default=10)
Priority	<input type="text" value="0"/> (0-4294967295)

Name	<input type="text" value="FGT2_to_FGT1"/>
Comments	<input type="text" value="Write a comment..."/> 0/255
Remote Gateway	<input type="text" value="Static IP Address"/>
IP Address	<input type="text" value="172.16.20.1"/>
Local Interface	<input type="text" value="wan1"/>
Mode	<input type="radio"/> Aggressive <input checked="" type="radio"/> Main (ID protection)
Authentication Method	<input type="text" value="Preshared Key"/>
Pre-shared Key	<input type="text" value="....."/>

Name	<input type="text" value="To_FGT1_P2"/>
Comments	<input type="text" value="Write a comment..."/> 0/255
Phase 1	<input type="text" value="FGT2_to_FGT1"/>

Create the VIP Range, setting the IPsec tunnel interface as the **External Interface**, the **External IP Address** to the intended local VIP range (10.31.101.1-10.31.101.254) and the **Mapped IP Address** to the internal network range (10.11.101.1-10.11.101.254).

Create the address range, setting the **Type** to **IP Range**, and entering the VIP range of FGT1 (10.21.101.1-10.21.101.254).

Create the two firewall policies to handle outbound and inbound VPN traffic.

For the outbound policy, select your internal-network-facing port as the **Incoming Interface**, and the IPsec interface as **Outgoing**. Set the **Destination Address** to the VIP Address Range. Enable NAT.

For the inbound, set the IPsec interface as the **Incoming Interface**, internal port as **Outgoing**, and your VIP range as the **Destination Address**. Disable NAT.

Name: VPN\_VIP\_2  
Comments: Write a comment...  
Color: [Change]  
External Interface: FGT2\_to\_FGT1  
Type: Static NAT  
 Source Address Filter  
External IP Address/Range: 10.31.101.1 - 10.31.101.254  
Mapped IP Address/Range: 10.11.101.1 - 10.11.101.254  
 Port Forwarding

Category:  Address  IPv6 Address  Multicast Address  
Name: FGT1 Range  
Color: [Change]  
Type: IP Range  
Subnet / IP Range: 10.21.101.1-10.21.101.254  
Interface: Any  
Show in Address List:

Incoming Interface: port1 (Internal)  
Source Address: all  
Outgoing Interface: FGT2\_to\_FGT1  
Destination Address: FGT1 Range  
Schedule: always  
Service: ALL  
Action: ACCEPT  
 Enable NAT

Incoming Interface: FGT2\_to\_FGT1  
Source Address: FGT1 Range  
Outgoing Interface: port1 (Internal)  
Destination Address: VPN\_VIP\_2  
Schedule: always  
Service: ALL  
Action: ACCEPT  
 Enable NAT

Then create the Static Route, with the **Destination IP** as 10.21.101.0/24. For your **Device**, select your VPN interface.

Set the Distance lower than 10.

## Results

On a FortiGate unit, you can go to **VPN > Monitor > IPsec Monitor** to see the status of the VPN tunnel.

Connect to the VPN, using a network device in Network\_1. Access the address 10.31.101.50, and your session will be redirected to Network\_2's 10.11.101.50.

Then, from a VPN-connected device in Network\_2, visit 10.21.101.50, and you will access Network\_1's 10.11.101.50.

Go to **Log & Report > Traffic Log > Forward Traffic** and filter the **Src Interface** column with the VPN Interface name to see incoming VPN traffic and the **Dst Interface** column to see outgoing.

Destination IP/Mask	<input type="text" value="10.21.101.0/24"/>
Device	<input type="text" value="FGT2_to_FGT1"/>
Distance	<input type="text" value="5"/> (1-255, Default=10)
Priority	<input type="text" value="0"/> (0-4294967295)

Name	Type	Status	Remote Gateway
FGT1_to_FGT2	Static IP or Dynamic DNS	<span style="color: green;">✔</span> Bring Down	172.16.30.1

#	Date/Time	Src	Dst	Sent / Received	Src Interface	Dst Interface
1	13:08:57	10.11.101.50	10.31.101.50	2.05 KB / 2.05 KB	port1	FGT1_to_FGT2
2	12:51:20	10.11.101.50	10.31.101.50	14.77 KB / 14.77 KB	port1	FGT1_to_FGT2
3	12:46:53	10.11.101.50	10.31.101.50	6.50 KB / 6.33 KB	port1	FGT1_to_FGT2