Configure Secure Access with Fortigate Firewall

Contents

Introduction

This document describes how to configure Secure Access with Fortigate Firewall.

Prerequisites

- Configure User Provisioning
- ZTNA SSO Authentication Configuration
- Configure Remote Access VPN Secure Access

Requirements

Cisco recommends that you have knowledge of these topics:

- Fortigate 7.4.x Version Firewall
- Secure Access
- Cisco Secure Client - VPN
- Cisco Secure Client - ZTNA
- Clientless ZTNA

Components Used

The information in this document is based on:

- Fortigate 7.4.x Version Firewall
- Secure Access

- Cisco Secure Client - VPN
- Cisco Secure Client - ZTNA

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

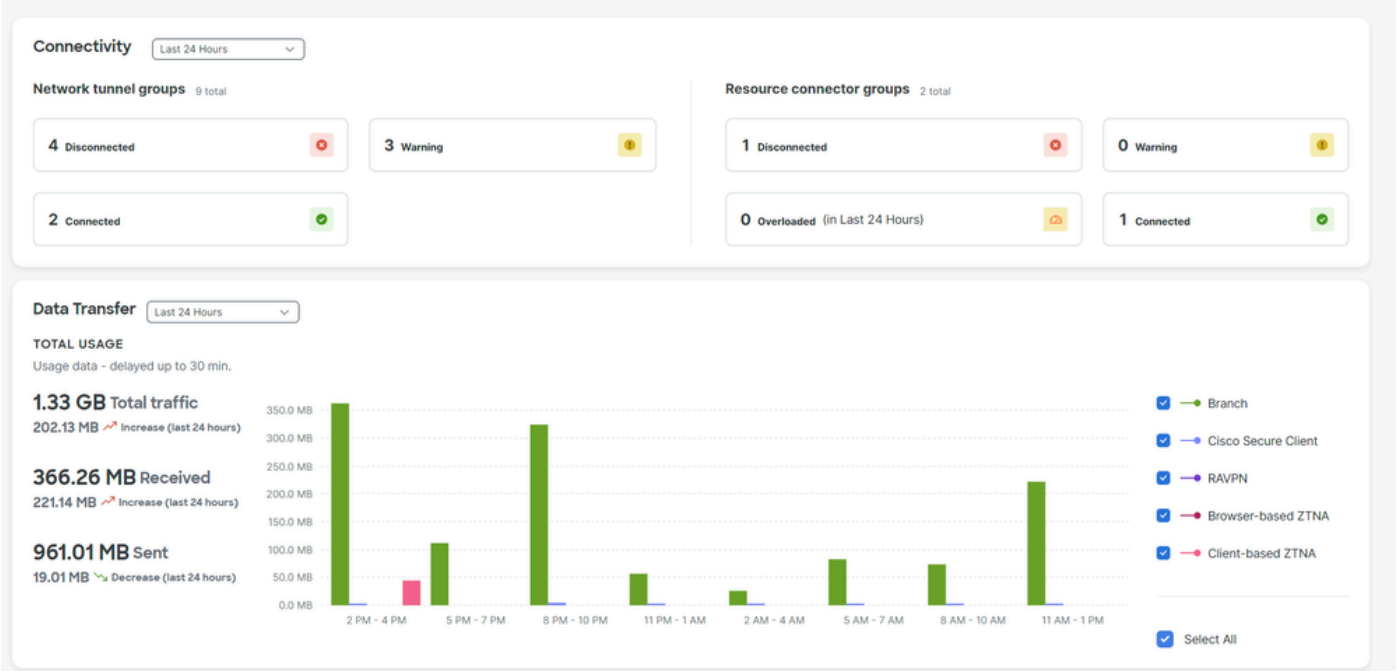
Background Information

Cisco has designed Secure Access to protect and provide access to private applications, both on-premise and cloud-based. It also safeguards the connection from the network to the internet. This is achieved through the implementation of multiple security methods and layers, all aimed at preserving the information as they access it via the cloud.

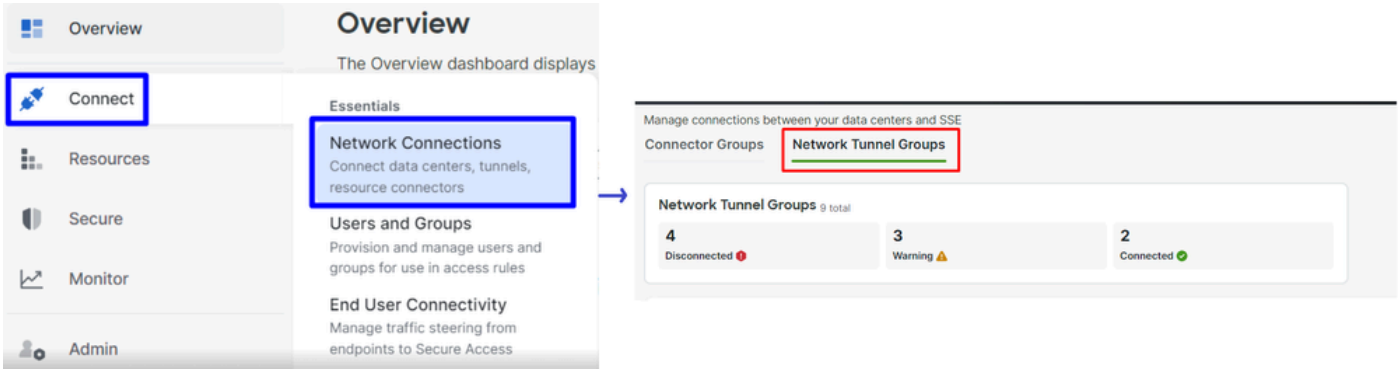
Configure

Configure the VPN on Secure Access

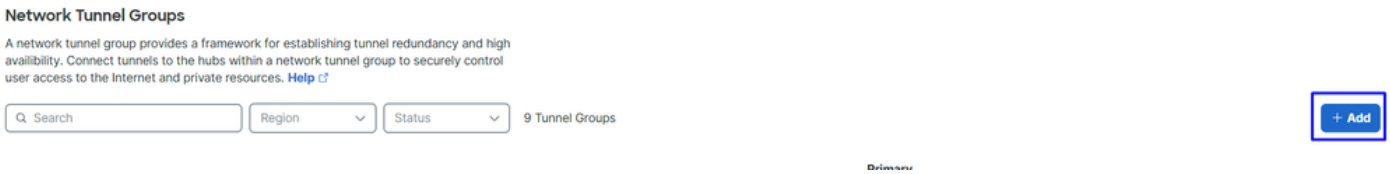
Navigate to the admin panel of Secure Access.



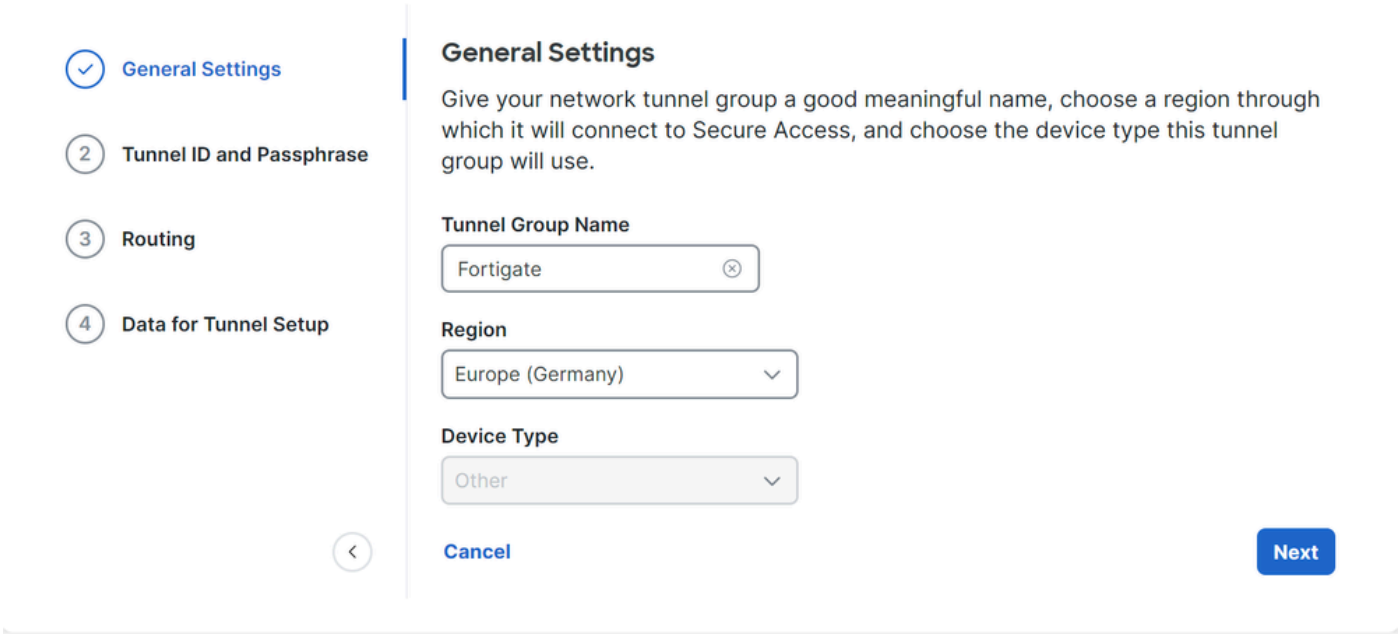
- Click on Connect > Network Connections > Network Tunnels Groups

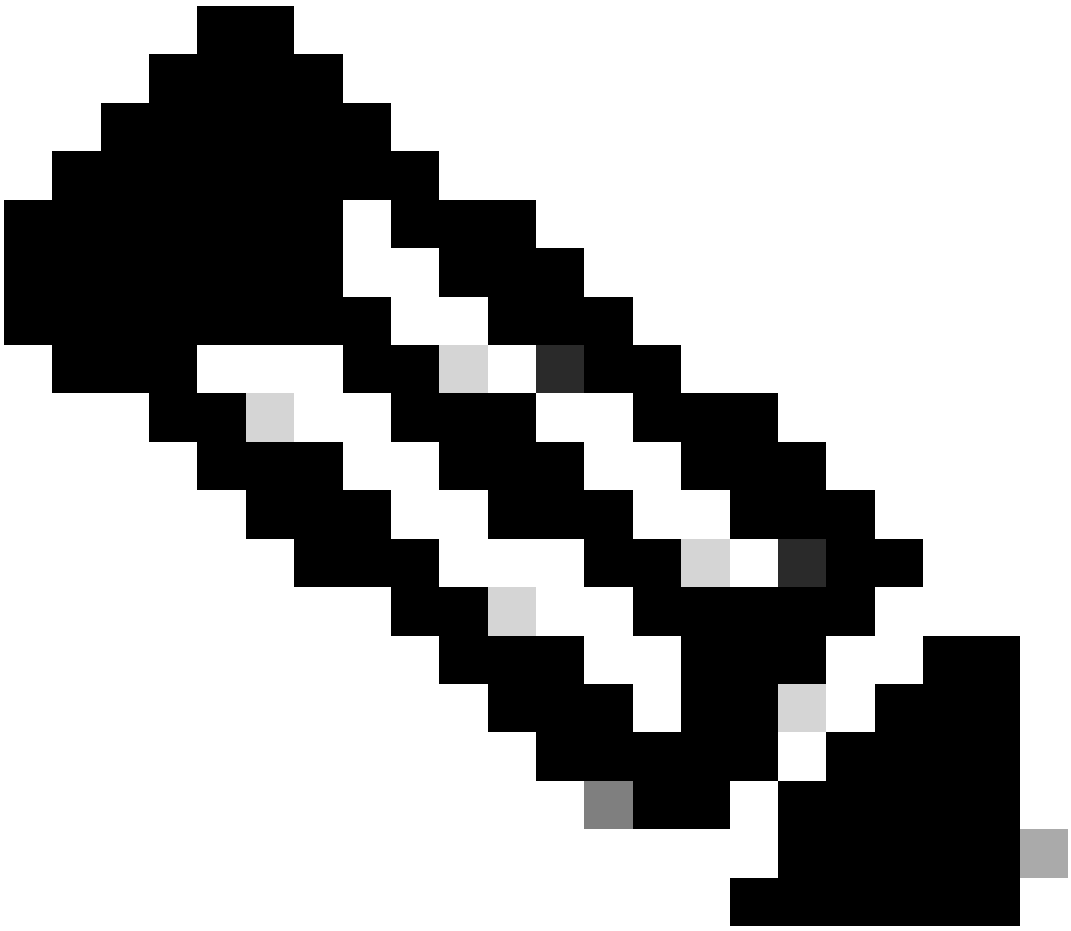


- Under Network Tunnel Groups click on + Add



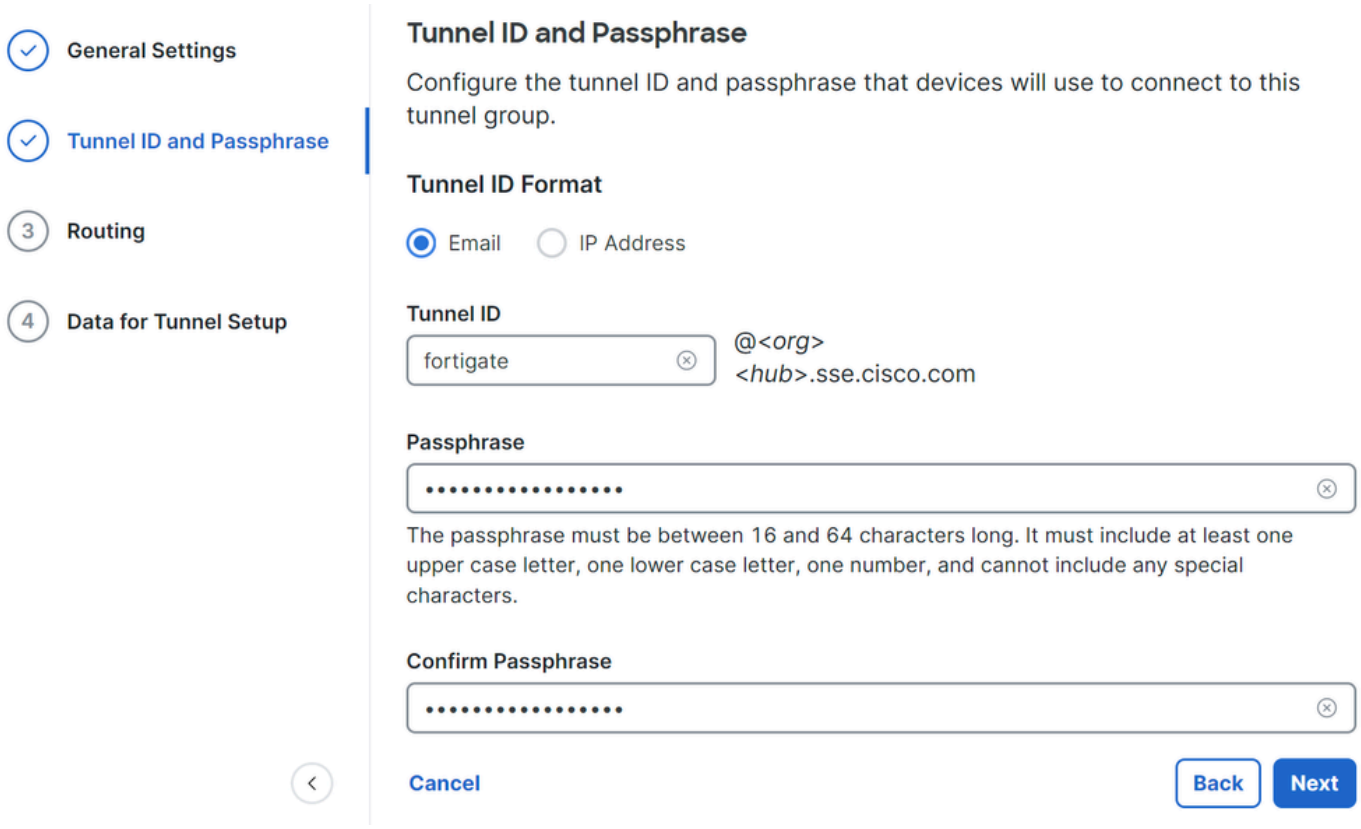
- Configure Tunnel Group Name, Region and Device Type
- Click **Next**



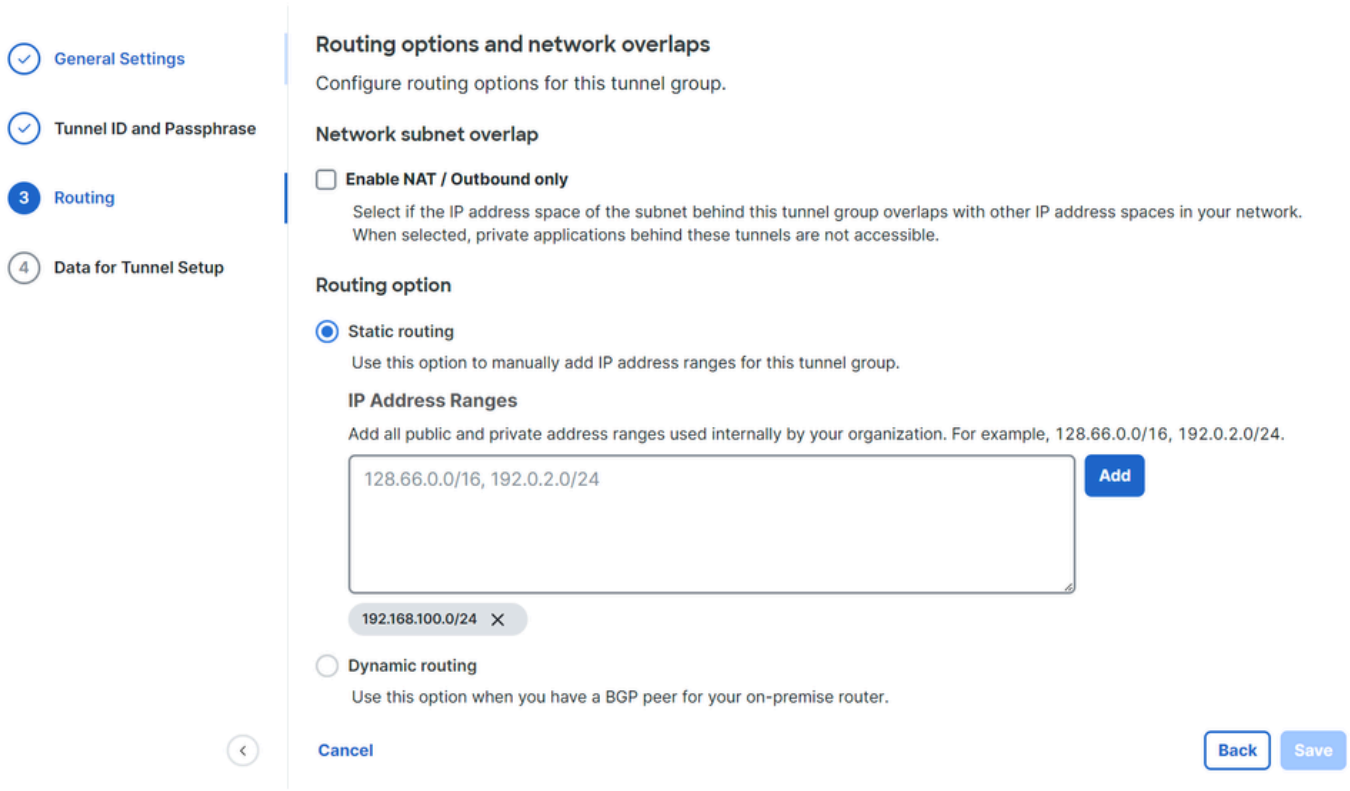


Note: Choose the region nearest to the location of your firewall.

- Configure the Tunnel ID Format and Passphrase
- ClickNext

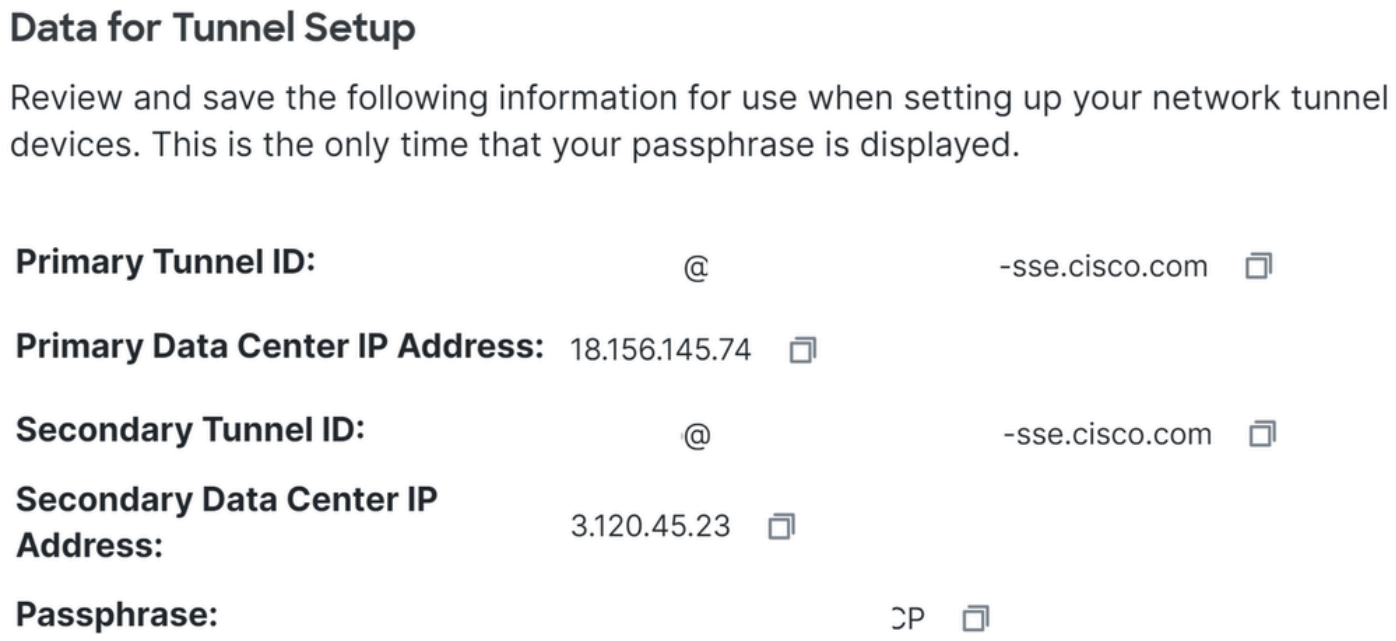


- Configure the IP address ranges or hosts that you have configured on your network and want to pass the traffic through Secure Access
- Click**Save**



After you click on **Save** the information about the tunnel gets displayed, please save that information for the next step, **Configure the VPN Site to Site on Fortigate**.

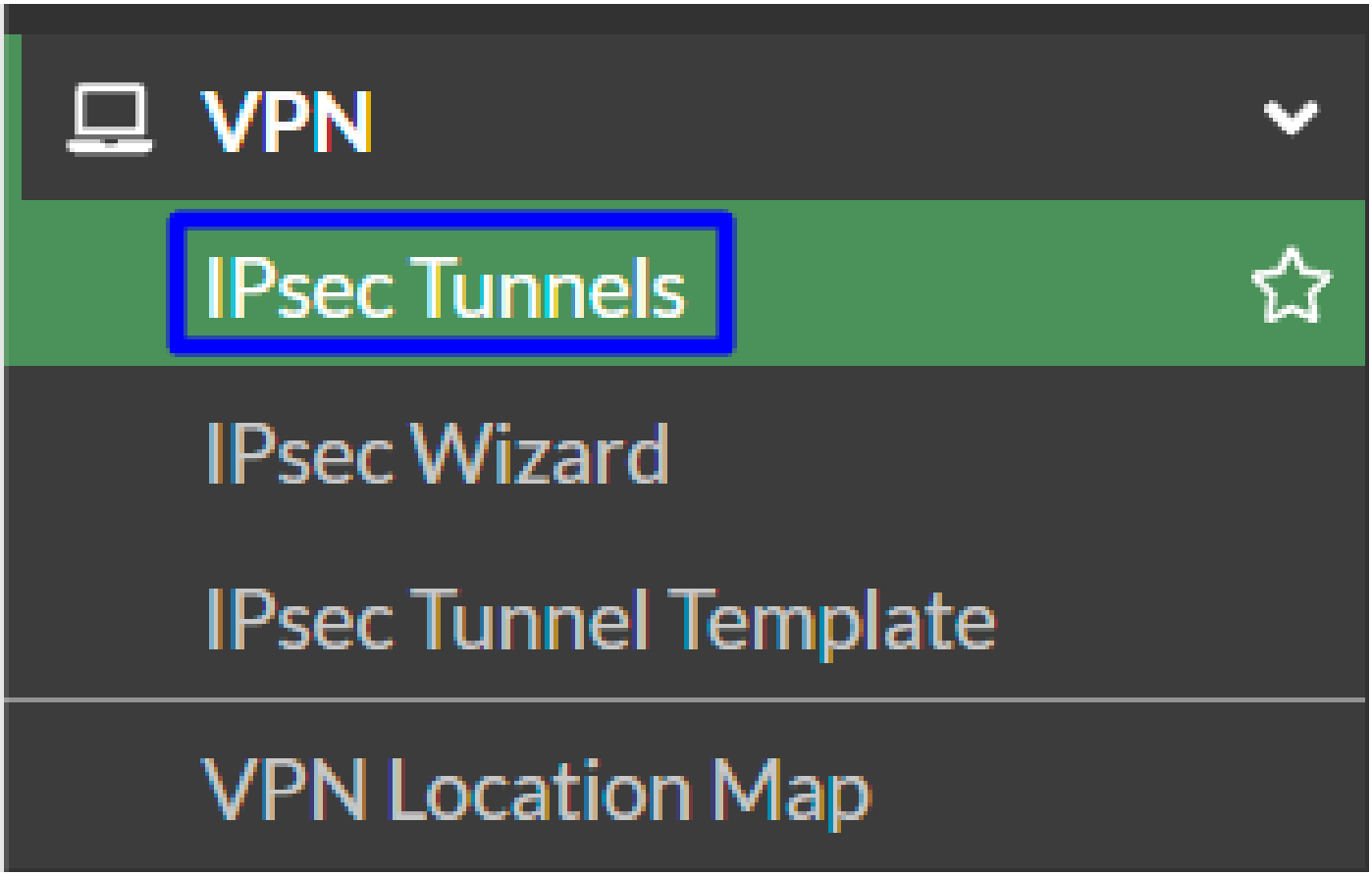
Tunnel Data



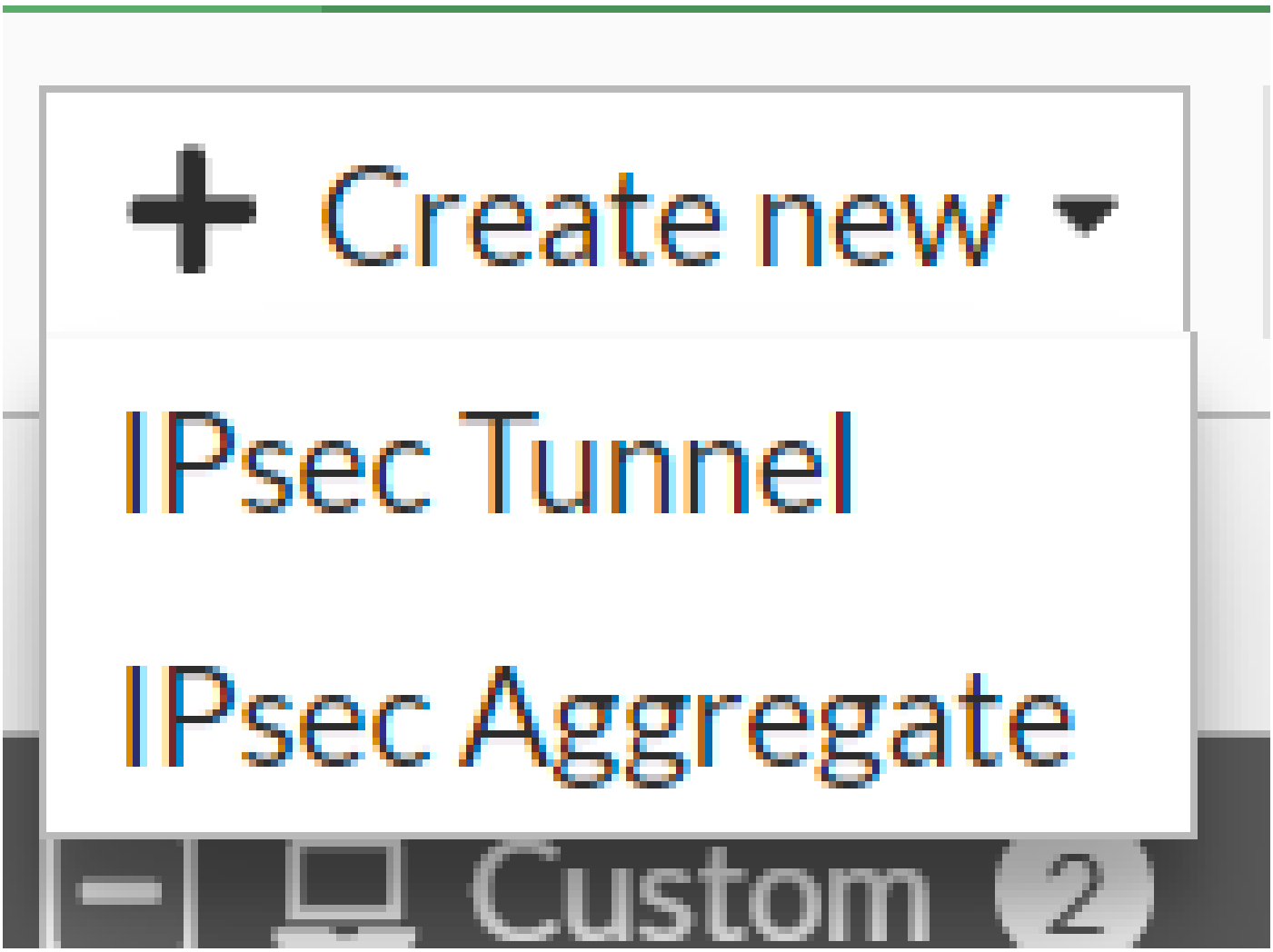
Configure the VPN Site to Site on Fortigate

Navigate to your Fortigate dashboard.

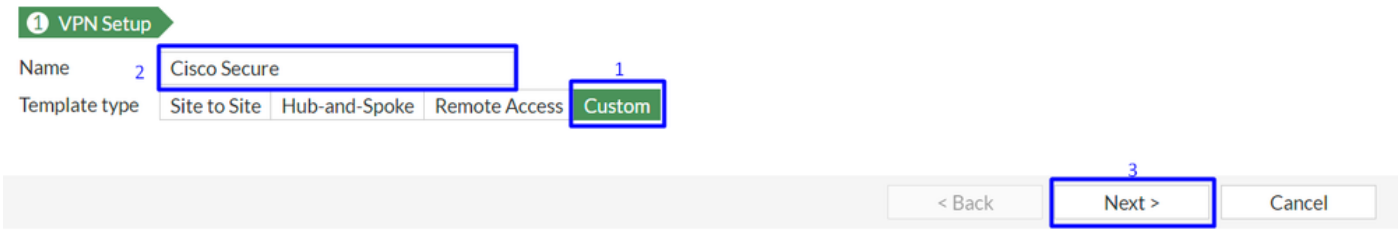
- Click VPN > IPsec Tunnels



- Click Create New > IPsec Tunnels

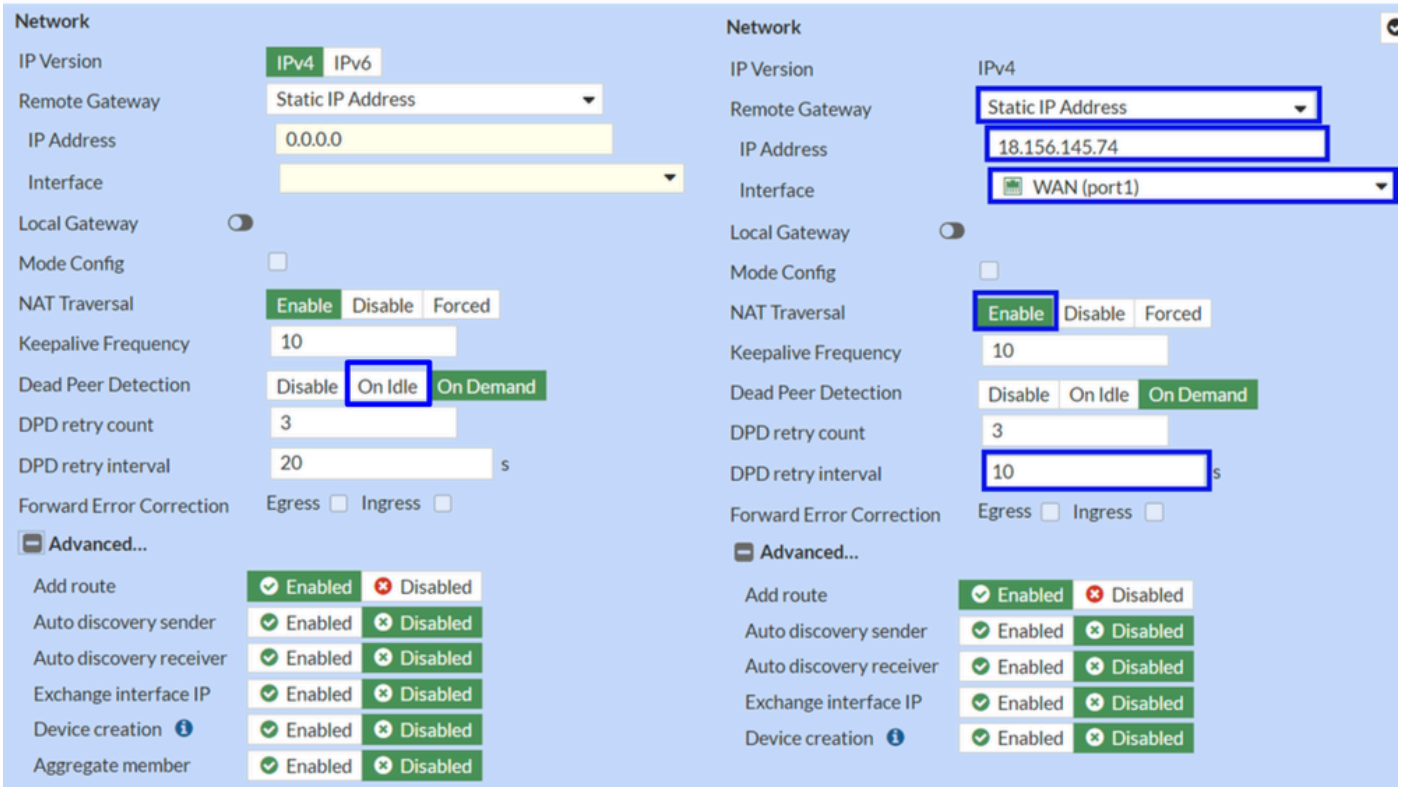


- Click Custom , configure a **Name** and click **Next.**



In the next image, you see how you need to configure the settings for the **Network** part.

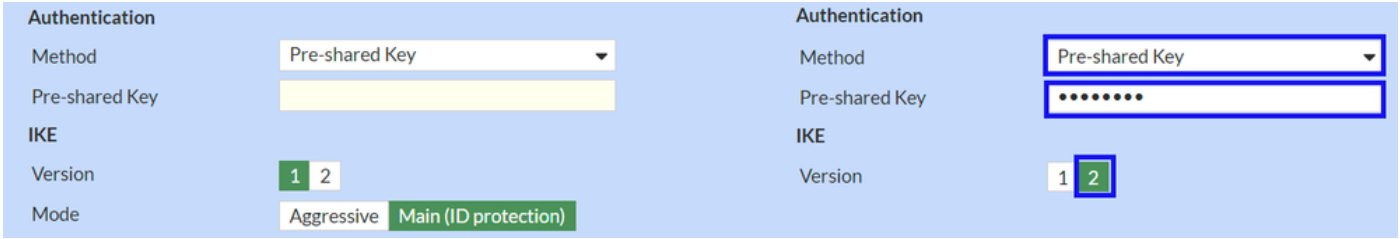
Network



- Network
  - IP Version : IPv4
  - **Remote Gateway** : Static IP Address
  - IP Address: Use the IP of Primary IP Datacenter IP Address,given in the step Tunnel Data
  - **Interface** : Choose the WAN interface that you have planned to use to establish the tunnel
  - **Local Gateway** : Disable as default
  - **Mode Config** : Disable as default
  - **NAT Traversal** : Enable
  - **Keepalive Frequency** : 10
  - Dead Peer Detection : On Idle
  - **DPD retry count** : 3
  - **DPD retry interval** : 10
  - **Forward Error Correction** : Do not check any box.
  - **Advanced...**: Configure it as the image.

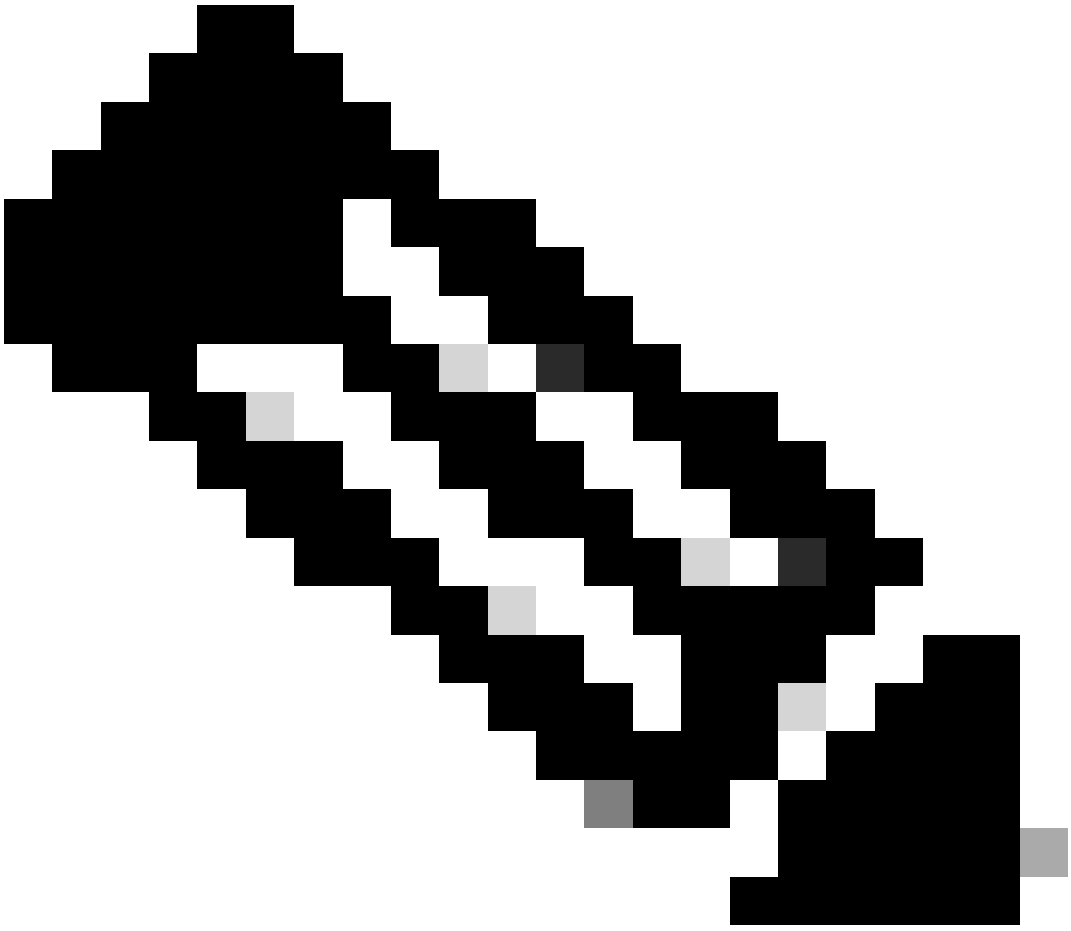
Now configure the IKE **Authentication.**

Authentication



- **Authentication**
  - **Method** : Pre-Shared Key as default
  - **Pre-shared Key** : Use the **Passphrase**given in the step Tunnel Data
- **IKE**
  - Version

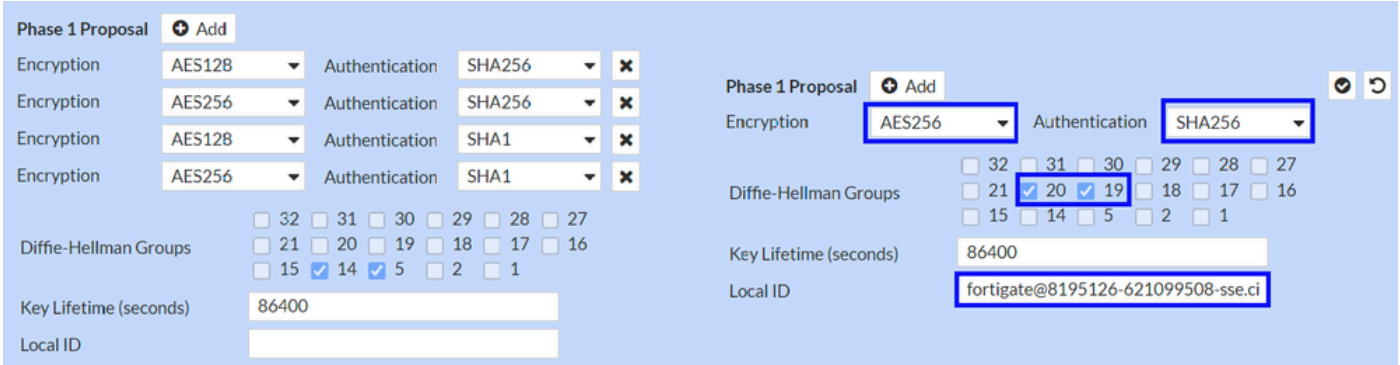
: Choose version 2.



Note: Secure Access only supports IKEv2

Now configure the **Phase 1 Proposal.**

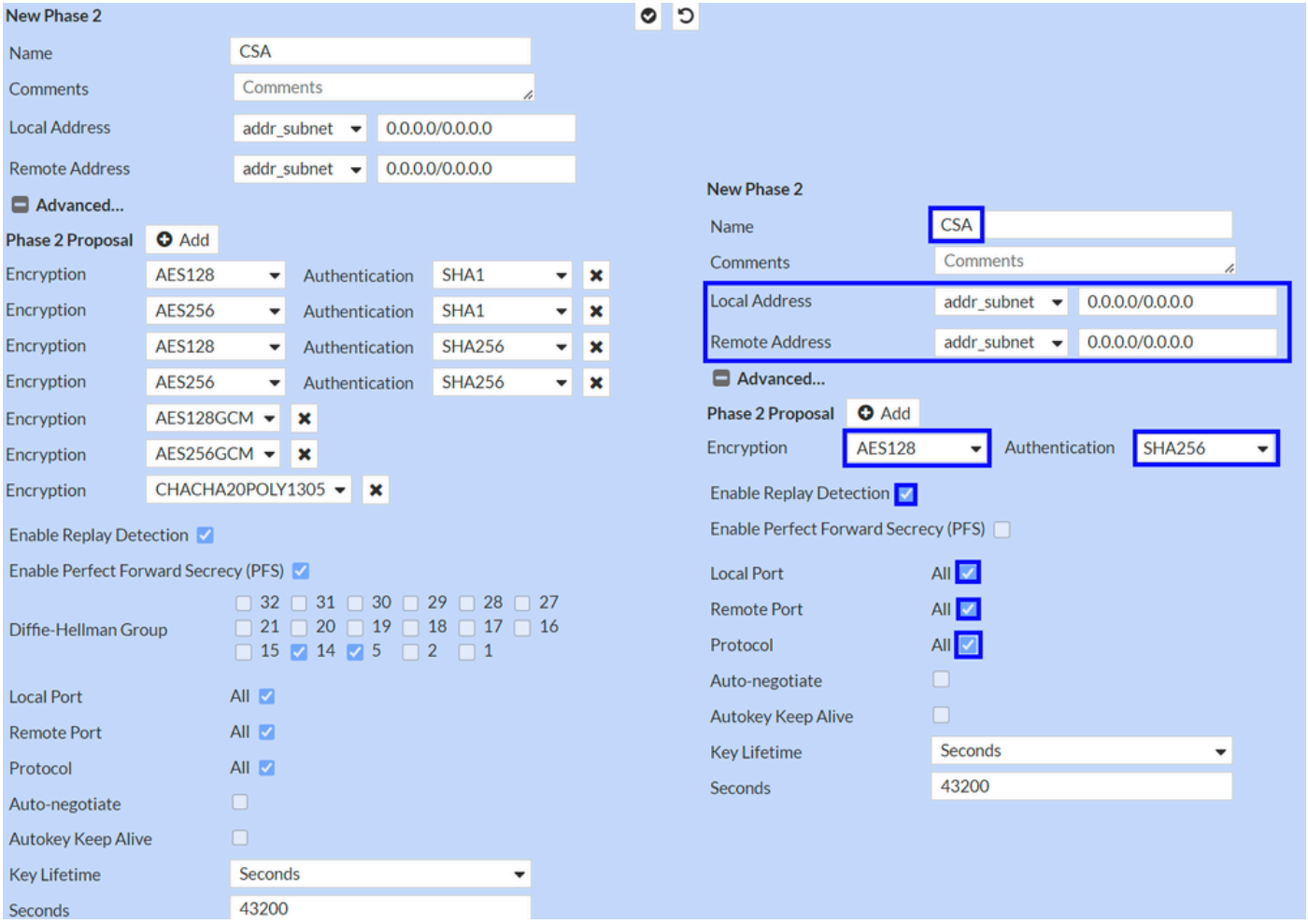
Phase 1 Proposal



- Phase 1 Proposal
  - Encryption : Choose AES256
  - Authentication : Choose SHA256
  - Diffie-Hellman Groups : Check the box 19 and 20
  - Key Lifetime (seconds) : 86400 as default
  - Local ID : Use the Primary Tunnel ID, given in the step Tunnel Data

Now configure the **Phase 2 Proposal.**

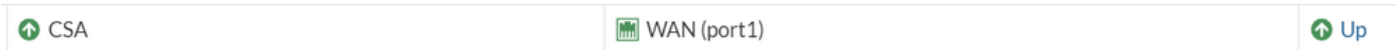
Phase 2 Proposal



- New Phase 2
  - **Name** : Let as default (This is taken from the name of your VPN)
  - **Local Address** : Let as default (0.0.0.0/0.0.0.0)
  - **Remote Address** : Let as default (0.0.0.0/0.0.0.0)
- Advanced
  - **Encryption** : Choose AES128
  - **Authentication** : Choose SHA256
  - **Enable Replay Detection** : Let as default (Enabled)
  - **Enable Perfect Forward Secrecy (PFS)** : Unmark the checkbox
  - **Local Port** : Let as default (Enabled)
  - **Remote Port**: Let as default (Enabled)
  - **Protocol** : Let as default (Enabled)
  - **Auto-negotiate** : Let as default (Unmarked)
  - **Autokey Keep Alive** : Let as default (Unmarked)
  - **Key Lifetime** : Let as default (Seconds)

- **Seconds** : Let as default (43200)

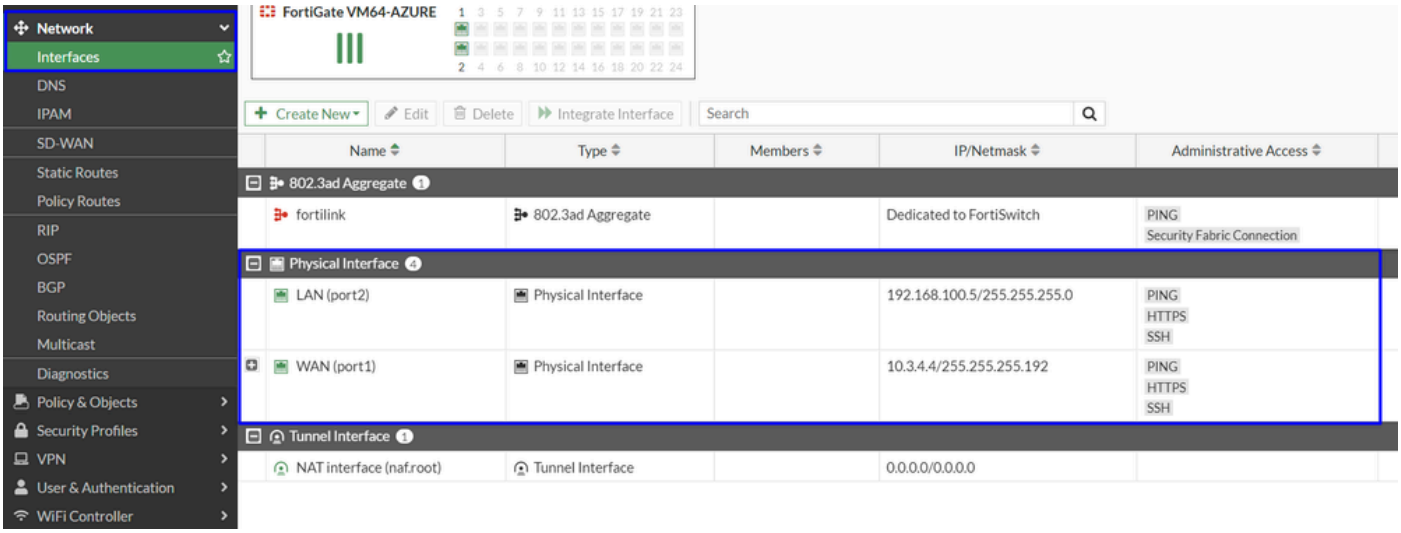
After that, click OK. You see after some minutes that the VPN was established with Secure Access, and you can continue with the next step, **Configure the Tunnel Interface.**



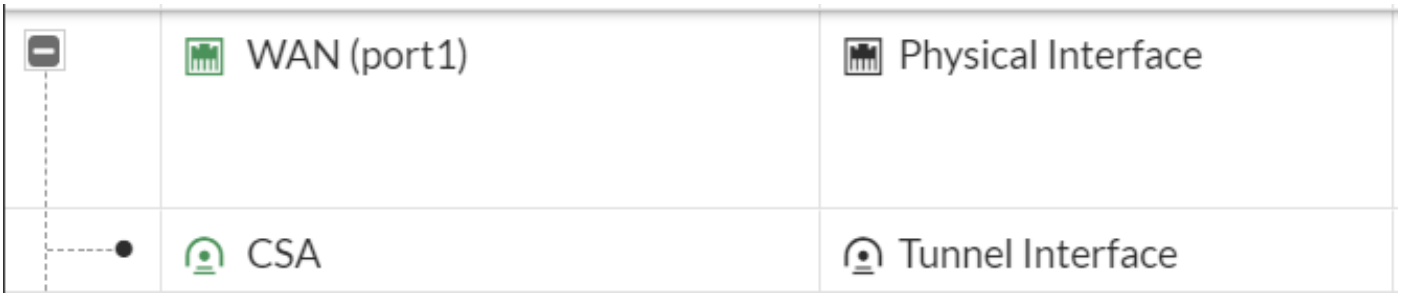
Configure the Tunnel Interface

After the tunnel is created, you notice that you have a new interface behind the port that you are using as a WAN interface to communicate with Secure Acces.

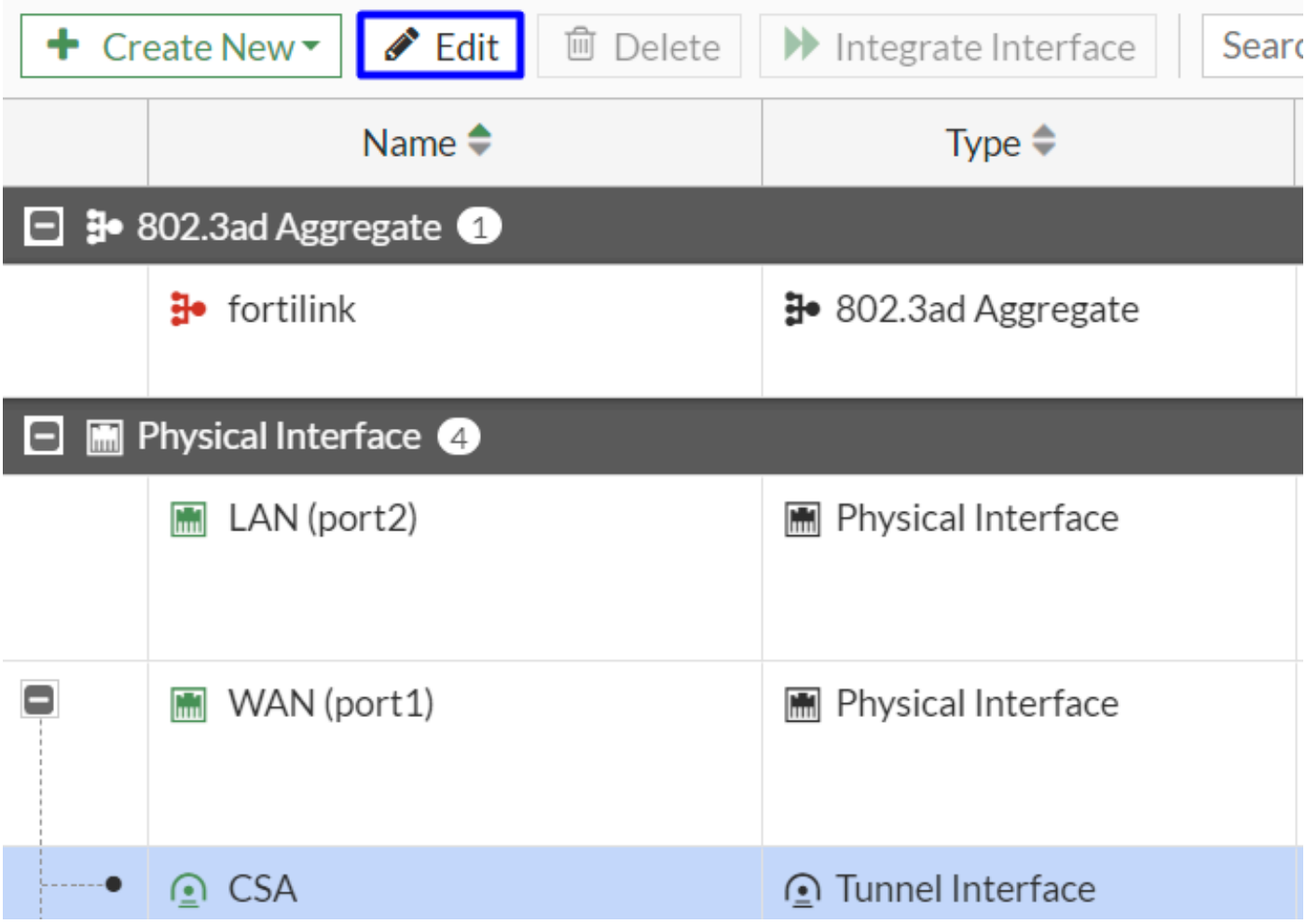
In order to check that, please navigate to **Network > Interfaces.**



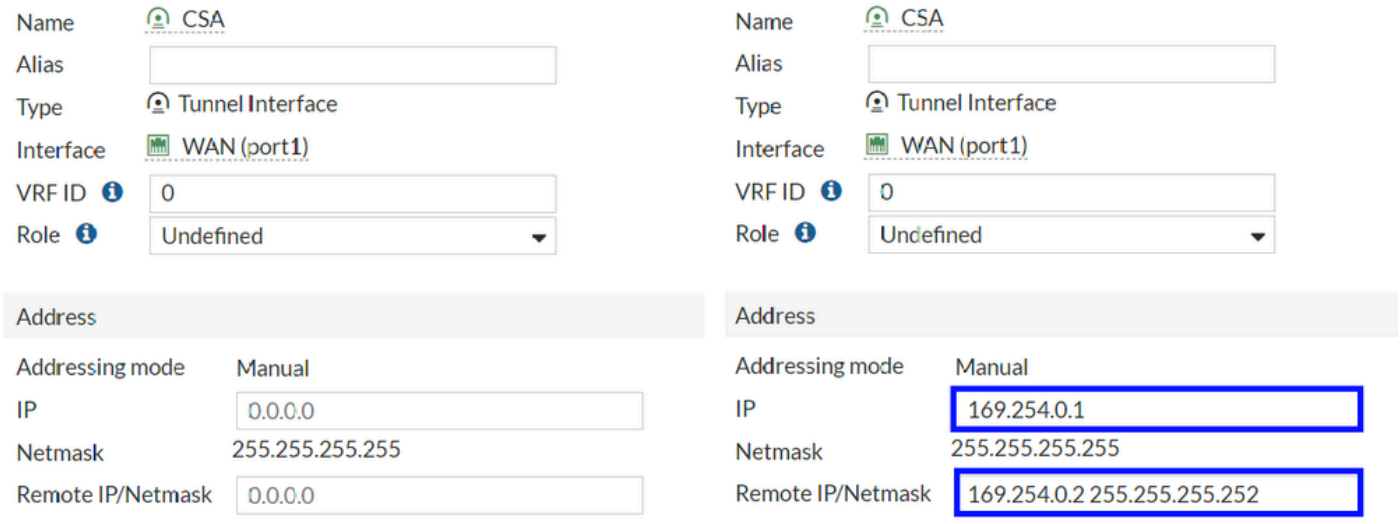
Expand the port you use to communicate with Secure Access; in this case, the **WAN** interface.



- Click on your **Tunnel Interface** and click **Edit**

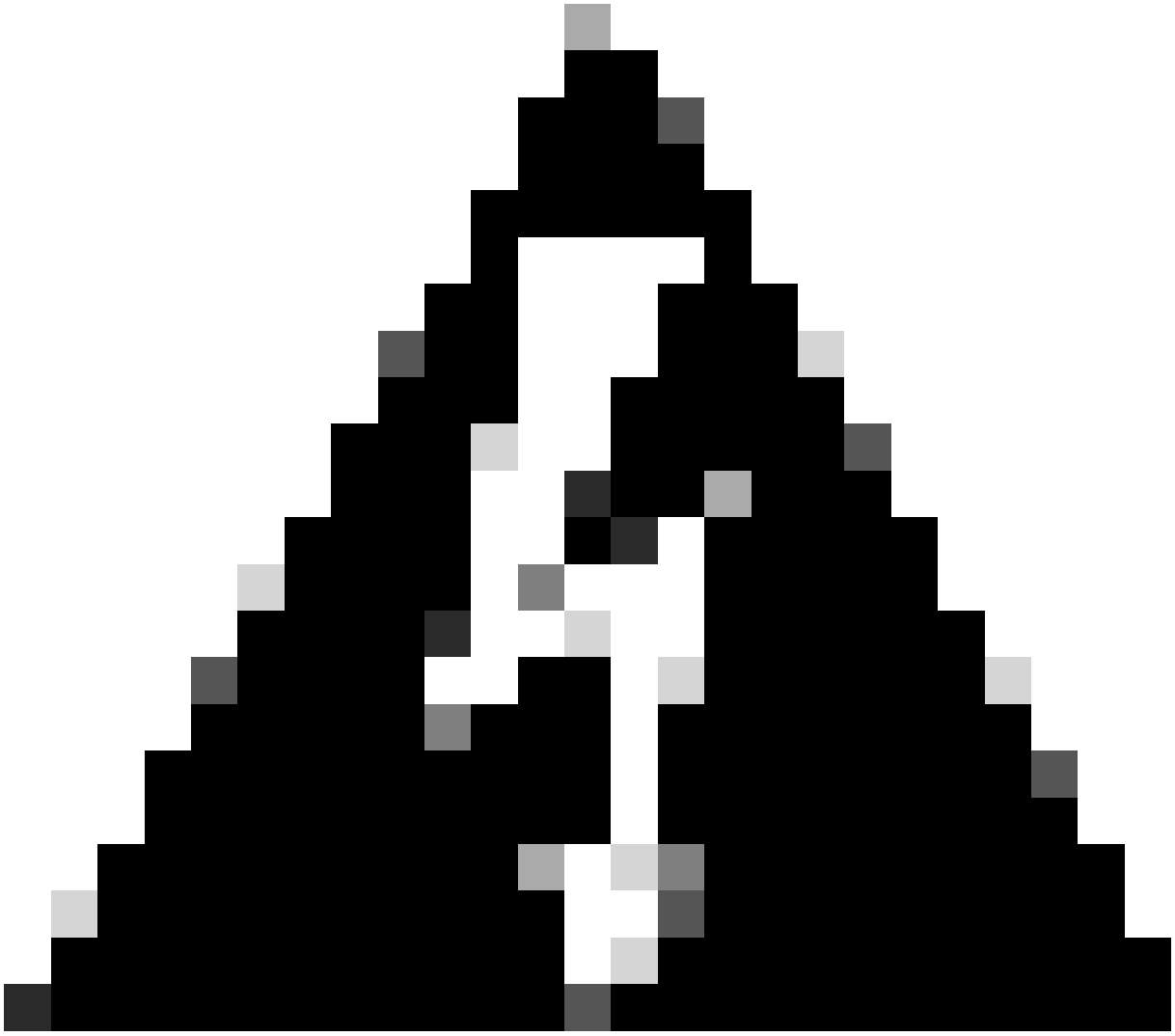


- You have the next image that you need to configure



- Interface Configuration
- IP : Configure a non-routable IP that you do not have in your network (169.254.0.1)
- Remote IP/Netmask : Configure the Remote IP as the next IP of your interface IP and with a Netmask of 30 (169.254.0.2 255.255.255.252)

After that, click **OK** to save the configuration and proceed with the next step, Configure Policy Route (Origin-based routing).

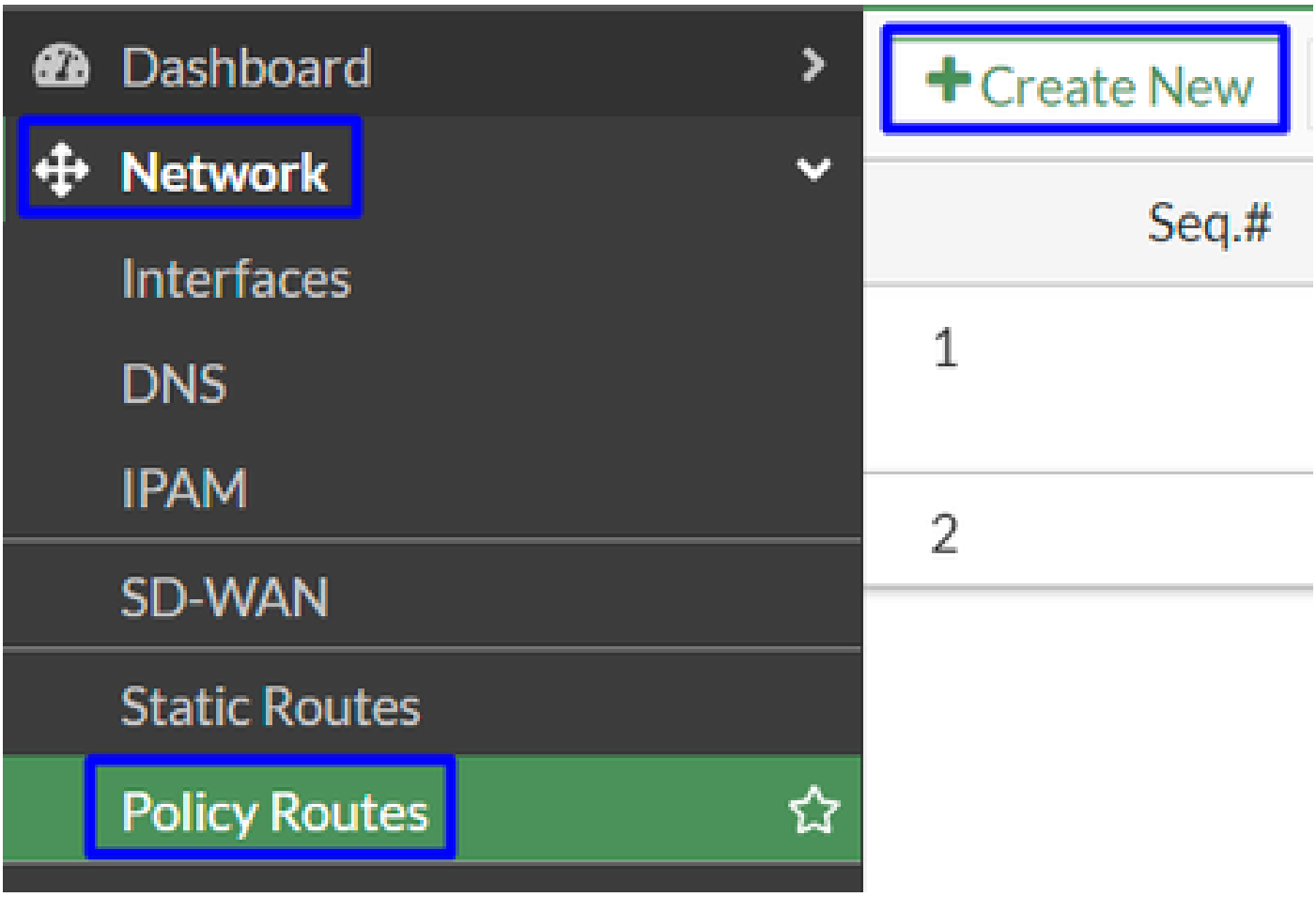


Warning: After this part, you must configure the Firewall Policies on your FortiGate in order to permit or allow the traffic from your device to Secure Access and from Secure Access to the networks that you want to route the traffic.

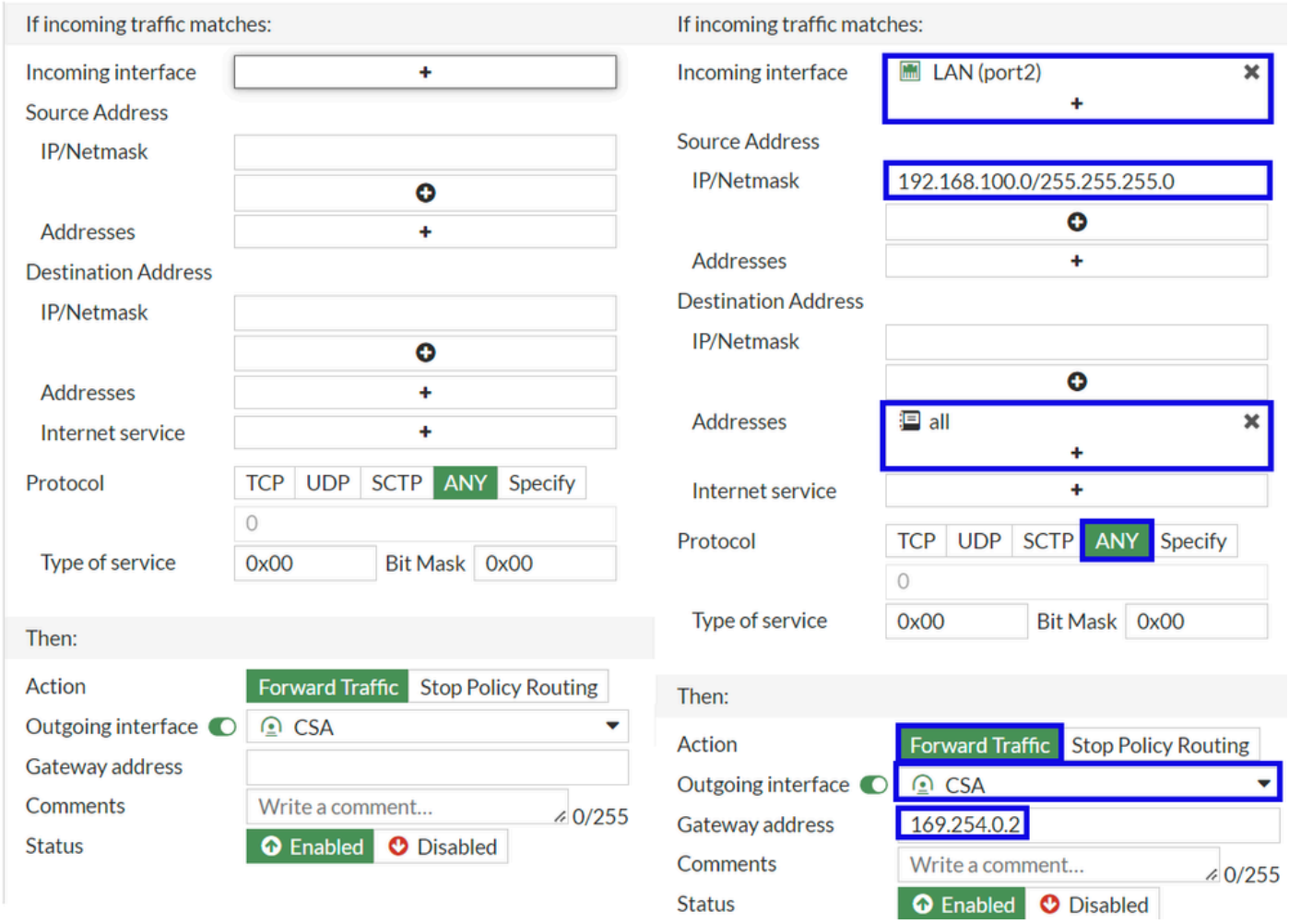
Configure Policy Route

At this point, you have your VPN configured and established to Secure Access; now, you must re-route the traffic to Secure Access to protect your traffic or access to your private applications behind your FortiGate firewall.

- Navigate to Network > Policy Routes



- Configure the policy



- If Incoming traffic matches
  - Incoming Interface : Choose the interface from where you planned to re-route the traffic to Secure Access (Origin of traffic)
- Source Address
  - IP/Netmask : Use this option if you only route a subnet of an interface
  - Addresses : Use this option if you have the object created and the source of the traffic comes from multiple interfaces and multiple subnets
- Destination Addresses
  - Addresses: Choose all
  - Protocol: Choose **ANY**
- Then
  - Action: **Choose Forward Traffic**
- Outgoing Interface : Choose the Tunnel Interface that you modified on the step, Configure Tunnel Interface
- Gateway Address: Configure the Remote IP configured on the step, RemoteIPNetmask
- Status : Choose Enabled

Click **OK** to save the configuration, you are now ready to verify if your devices traffic was re-routed to Secure Access.

Verify

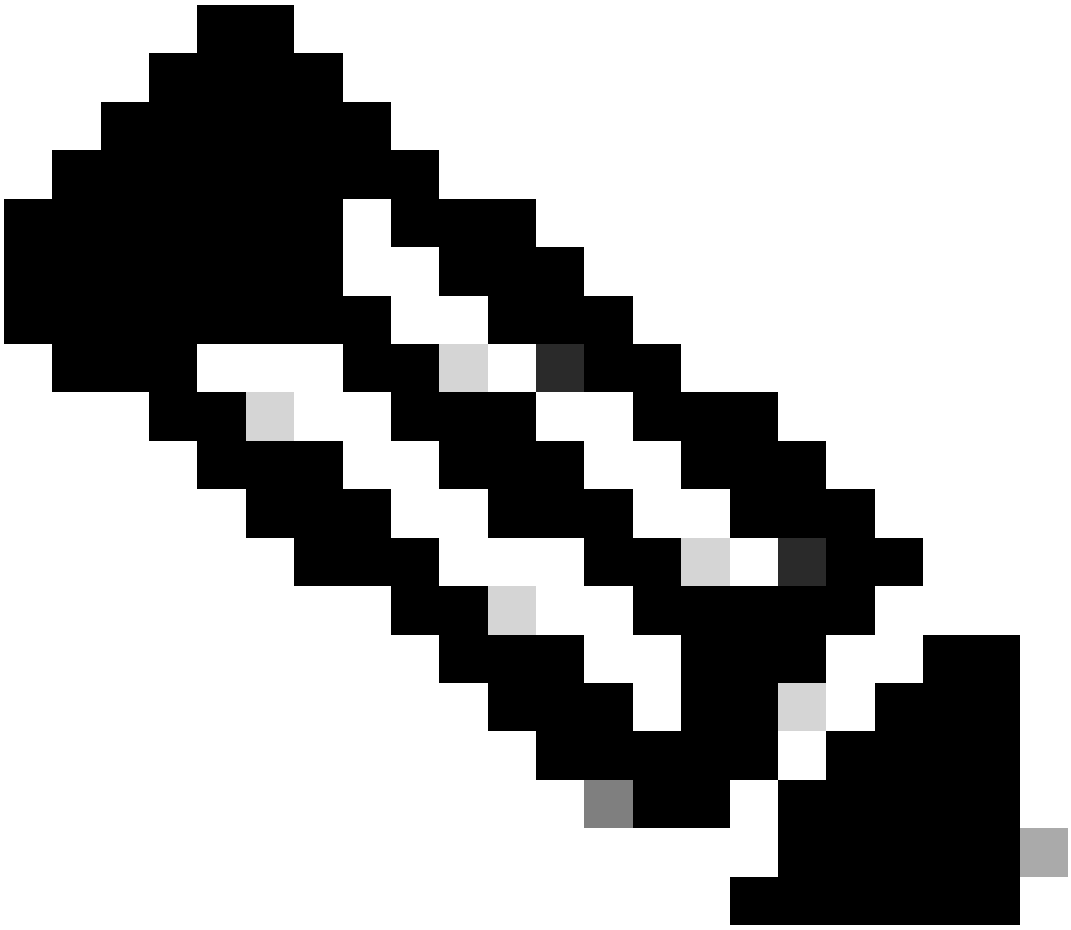
In order to verify if the traffic of your machine was re-routed to Secure Access, you have two options; you can check on the internet and check for your public IP, or you can run the next command with curl:

```
C:\Windows\system32>curl ipinfo.io
{
  "ip": "151.186.197.1",
  "city": "Frankfurt am Main",
  "region": "Hesse",
  "country": "DE",
  "loc": "50.1112,8.6831",
  "org": "AS16509 Amazon.com, Inc.",
  "postal": "60311",
  "timezone": "Europe/Berlin",
  "readme": "https://ipinfo.io/missingauth"
}
```

The public range from where you can see your traffic is from:

Min Host: 151.186.176.1

Max Host : 151.186.207.254



> **Note**: These IPs are subject to change, which means that Cisco probably extend this range in the future.

If you see the change of your public IP, that means you are being protected by Secure Access, and now you can configure your private application on the Secure Access dashboard to access your applications from VPNaaS or ZTNA.