equinux

VPN Tracker 365

VPN Configuration Guide

D-Link

DSR Series VPN Routers, DFL NetDefend UTM Firewalls

Revised May 2021

Please note this guide is intended as a supplement to the documentation provided by your device's manufacturer and is not a replacement for the user manual.

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Contents

Introduction

My VPN Gateway Configuration Checklist

Throughout this guide, there are certain pieces of information that are needed later on for configuring VPN Tracker. This information is marked with red numbers to make it easier to reference it later. You can print this checklist to help keep track of the various settings of your device.

IP Addresses

(1) WAN IP Address: _____._____._____._____ (or hostname _____)

(2) LAN (internal) IP Address / Subnet Mask: _____._____._____._____ / _____._____._____.

Pre-Shared Key

(3) Pre-Shared Key: _____

User Authentication (XAUTH)

(4) Username: _____

(5) Password: _____

Task 1 – VPN Gateway Configuration

We will first set up VPN on the D-Link. If you already have a VPN set up, it's helpful to follow along this tutorial to see how settings on the D-Link fit together with VPN Tracker.

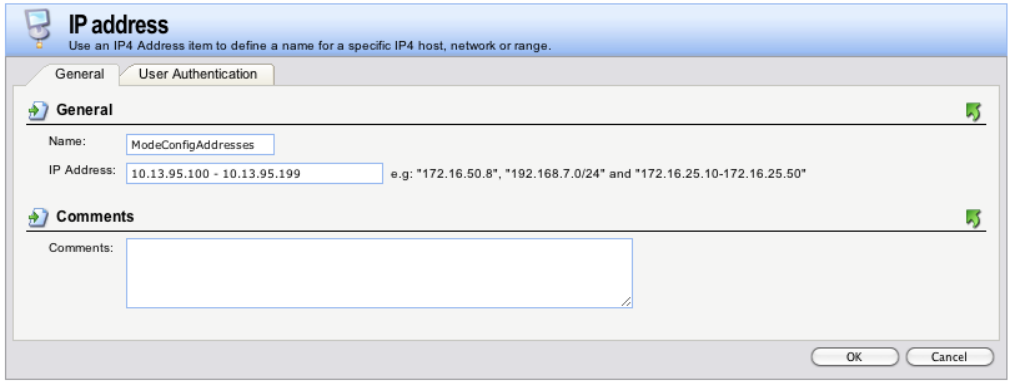
Step 1 – Address Book Entries

- ➔ Go to **Objects** > **Address Book** > **Interface Addresses**
- ➔ Find the **wan1_ip** entry in the list and write it down as **(1)** on your checklist
- ➔ Find the **lannet** entry in the list and write it down as **(2)**

Mode Config Entries

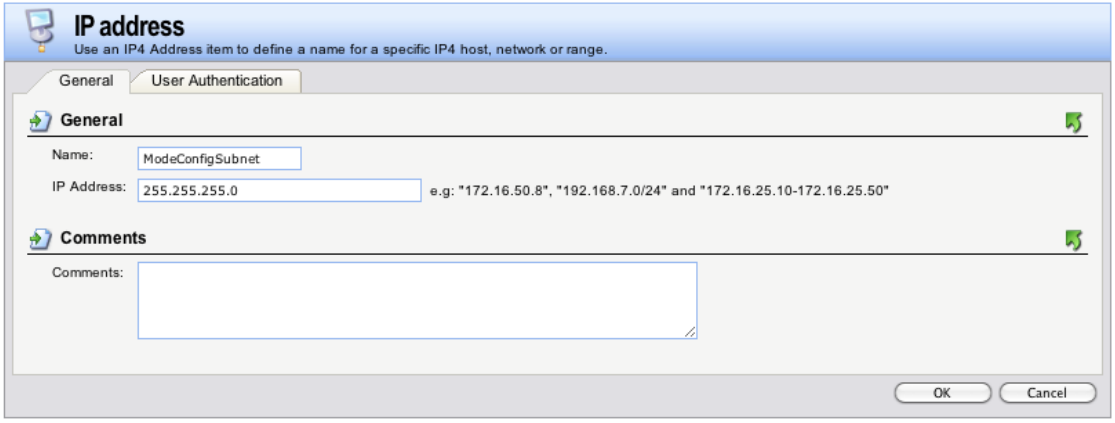
VPN clients will be using Mode Config to automatically receive an IP address to use when connected through VPN. In our setup, we'll be using a pool of addresses that is independent from the D-Link's networks for VPN clients.

- ➔ Go to **Objects** > **Address Book**
- ➔ Click **Add** > **IP Address**
- ➔ **Name**: Enter a name that allows you to recognize the entry later (e.g. ModeConfigAddresses)
- ➔ **IP Address**: Enter the range of IP addresses that should be assigned to your VPN clients. The IP addresses should come from a private subnet that is not part of your D-Link's networks. In our example, we're using 10.13.95.100 - 10.13.95.199
- ➔ Click **OK** to save the entry



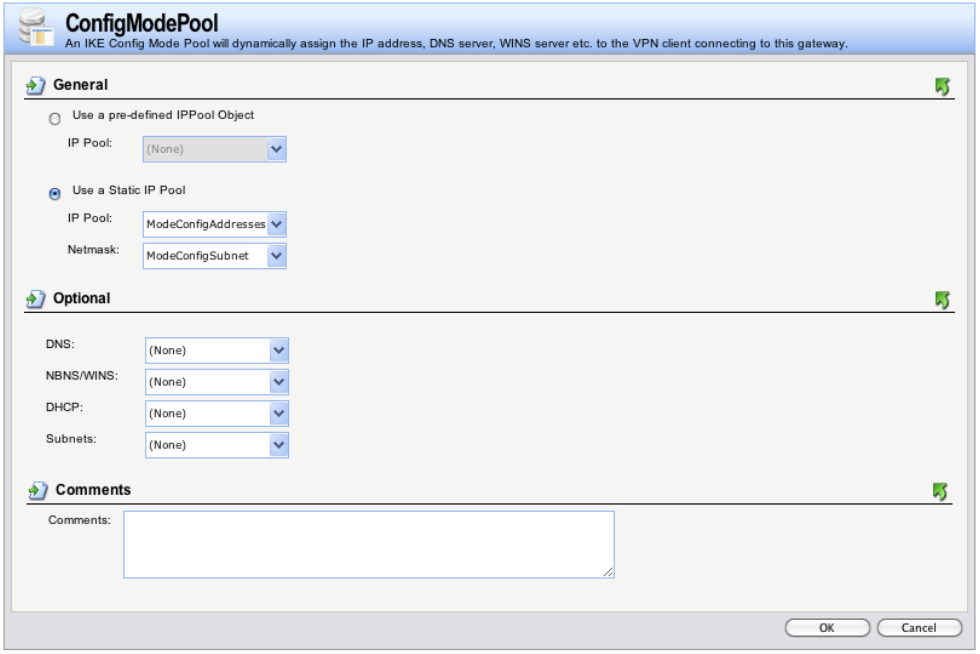
For the Mode Config pool, we also need to specify the subnet mask of the network we've chosen:

- ➔ Click **Add** > **IP Address**
- ➔ **Name:** Enter a name that allows you to recognize the entry later (e.g. ModeConfigSubnet)
- ➔ **IP Address:** Enter the subnet mask of the network you have chosen for the address pool (e.g. 255.255.255.0)
- ➔ Click **Ok** to save the entry



Step 2 – Create a Mode Config Pool

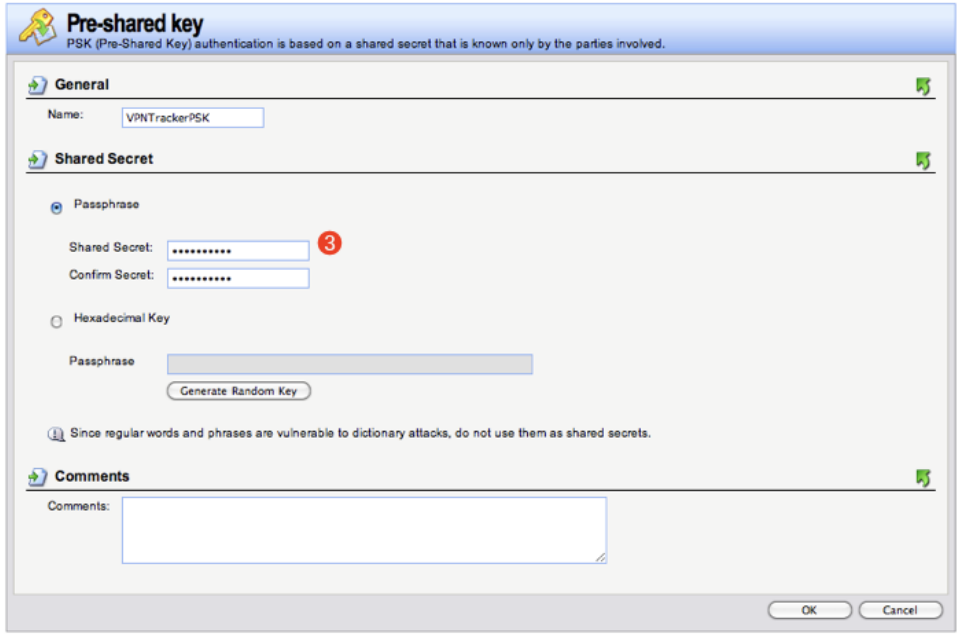
- ➔ Go to **Objects** > **VPN Objects** > **Config Mode Pool**
- ➔ Click **Add** > **ConfigModePool**
- ➔ Check the box **Use a Static IP Pool**
- ➔ **IP Pool**: Select the address book entry created in step 1
- ➔ **Netmask**: Select the address book entry for the subnet created in step 1
- ➔ Click **OK** to save the Mode Config pool



Tip: Mode Config pools can also use a reserved pool of addresses from a DHCP server. However, this limits the available VPN client addresses to the number of leases available on the DHCP server, and is more complex. We recommend going with a separate Mode Config pool first. You can always change to a DHCP server based address pool once you have everything working.

Step 3 – Add a Pre-Shared Key

- ➔ Go to **Objects** > **Authentication Objects**
- ➔ Click **Add** > **Pre-Shared Key**
- ➔ **Name**: Enter a name for the pre-shared key object (e.g. VPNTrackerPSK)
- ➔ Select **Passphrase**
- ➔ **Shared Secret**: Enter a password key for the connection and note this down on your checklist as **(3)**
- ➔ Click **OK**

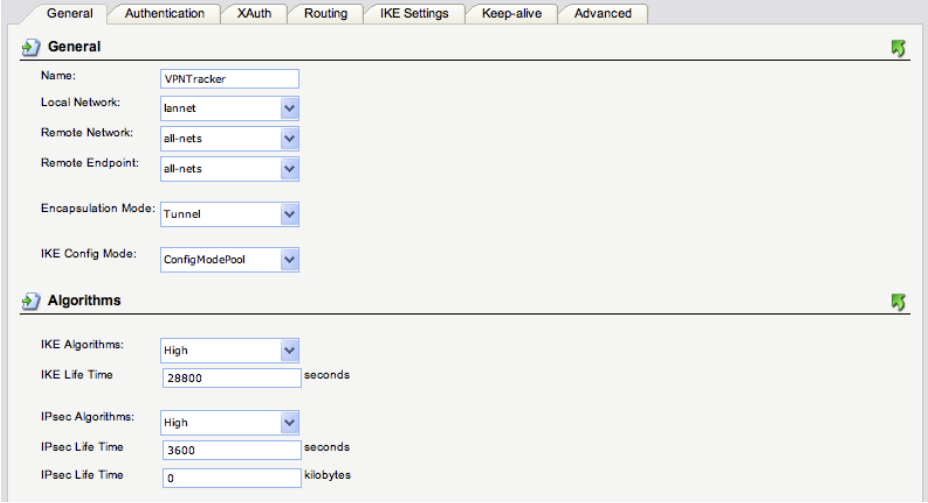


Step 4 – Add an IPsec Interface

- ➔ Go to **Interfaces** > **IPsec**
- ➔ Click **Add** > **IPsec Tunnel**

General

- ➔ **Name**: Enter a name for your tunnel (e.g. VPNTracker)
- ➔ **Local Network**: Select **lannet**
- ➔ **Remote Network**: Select **all-nets**
- ➔ **Remote Endpoint**: Select **all-nets**
- ➔ **Encapsulation Mode**: Select **Tunnel**
- ➔ **IKE Config Mode**: Select **Static** (ConfigModePool)
- ➔ **IKE Algorithms**: Select **High**
- ➔ **IKE Life Time**: We'll be using the default lifetime of 28800 sec. If you ever decide to change this, you'll also need to modify the phase 1 lifetime in VPN Tracker
- ➔ **IPsec Algorithms**: Select **High**
- ➔ **IPsec Life Time (seconds)**: We'll be using the default lifetime of 3600 sec. If you ever decide to change this, you'll also need to modify the phase 2 lifetime in VPN Tracker
- ➔ **IPsec Life Time (kilobytes)**: The lifetime in kilobytes must be set to 0

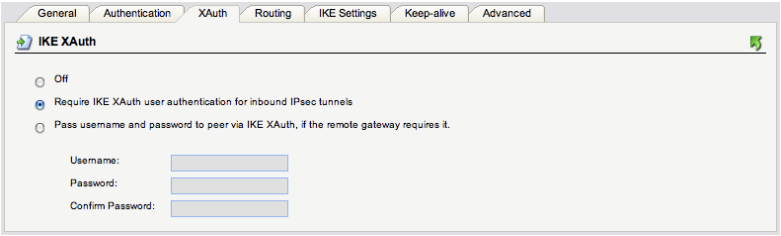


Authentication

- ➔ Select **Pre-shared Key**
- ➔ Select the pre-shared key you created in step 3
- ➔ **Local ID Type**: Select **Auto**

XAUTH

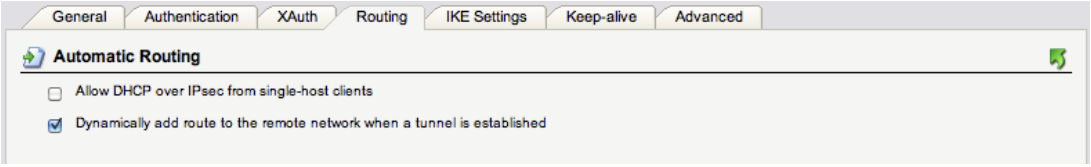
➔ Select **Require IKE Xauth user authentication for inbound IPsec tunnels**



Routing

➔ **Automatic Routing**: Check **Dynamically add route to the remote network when a tunnel is established**

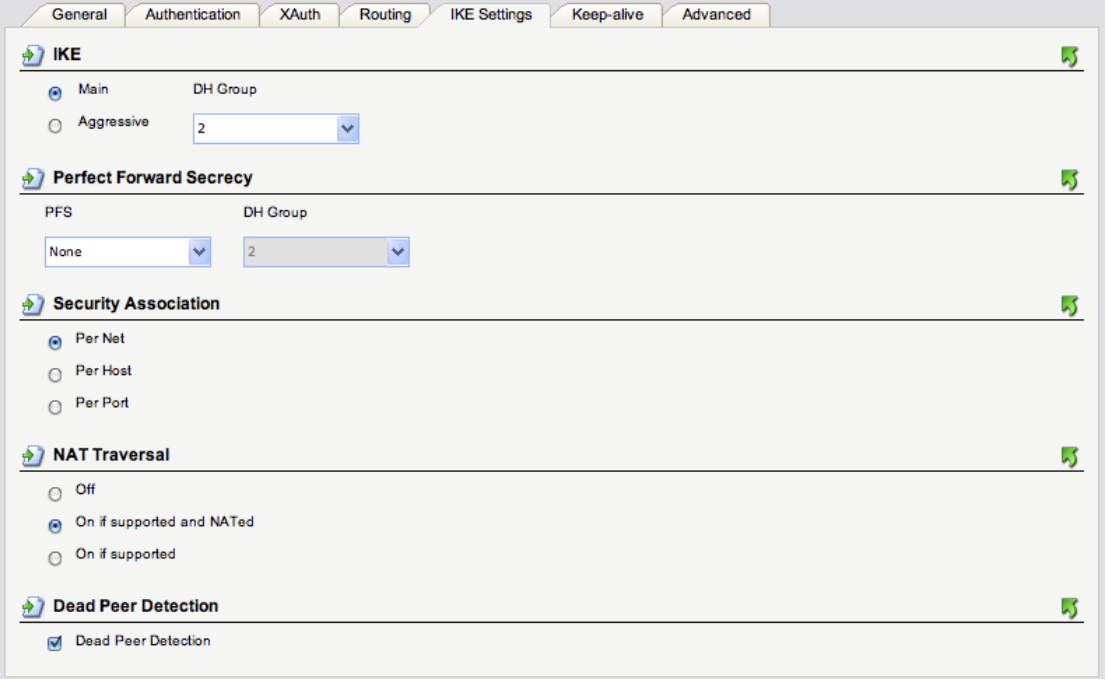
➔ Use the defaults for the remaining settings



IKE Settings

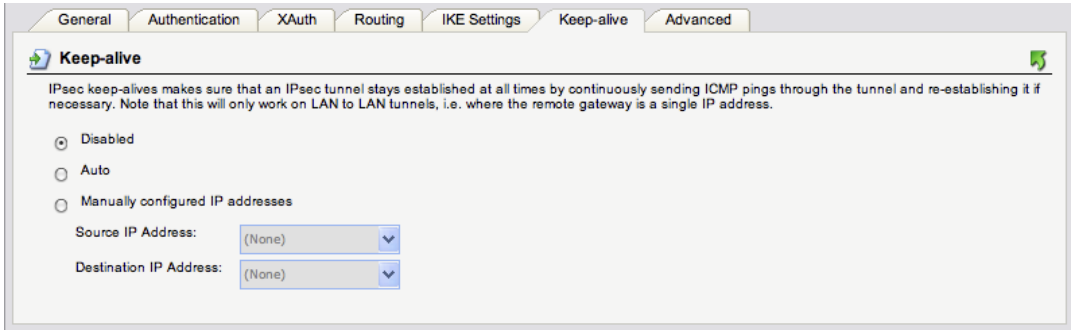
➔ We will be using the default IKE settings as shown in the screenshot

➔ If you make any changes here, you will need to modify the settings in VPN Tracker's Advanced tab to match them



Keep-Alive

➔ We will be using the default keep-alive settings as shown in the screenshot

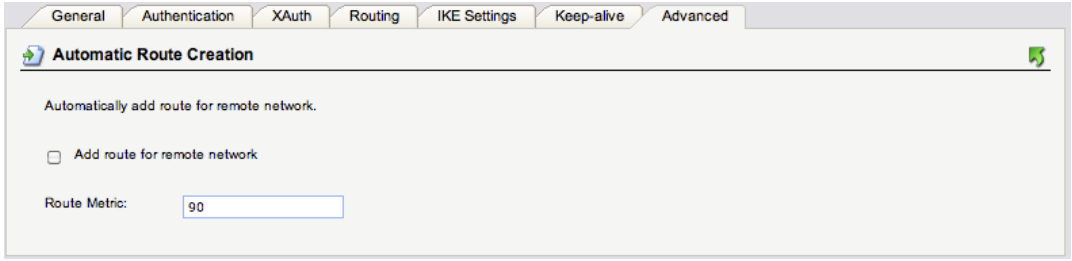


Advanced

➔ Uncheck the box **Add route for remote network**.

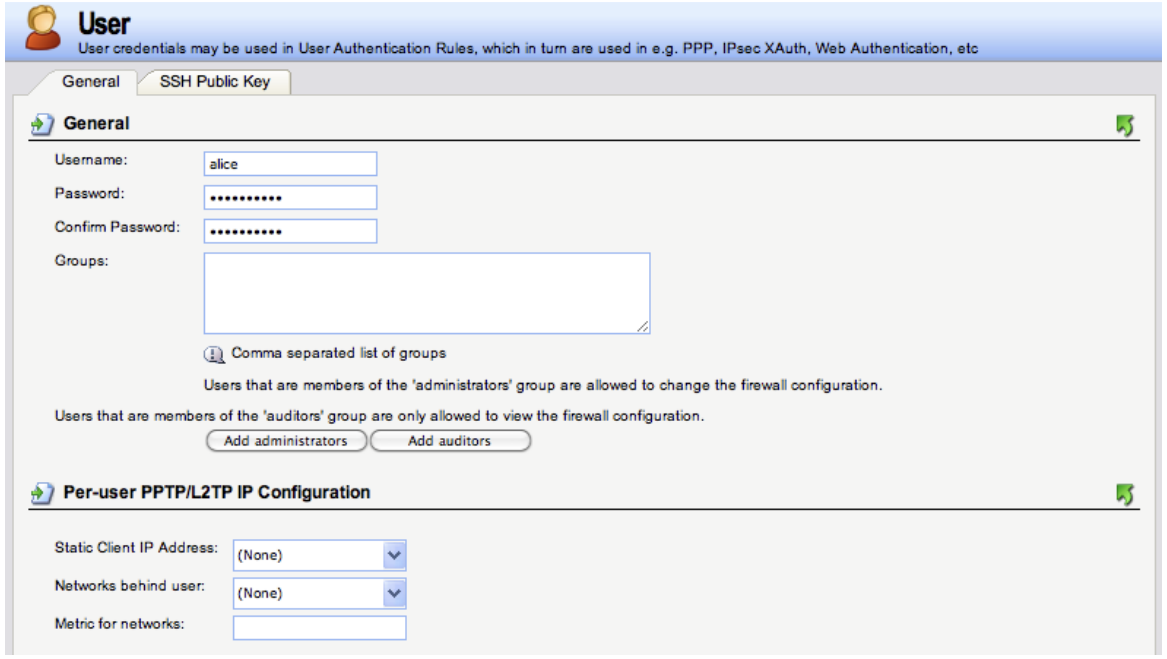
➔ **Important:** If you do not uncheck this box, you will cut off your D-Link from the network.

➔ Click **OK** to save the IPsec tunnel



Step 5 – Add an XAUTH User

- ➔ Go to User Authentication > Local User Databases
- ➔ Click Add > Local User Database
- ➔ Name: Enter a name for the user database
- ➔ Click OK to save the database
- ➔ Click Add > User
- ➔ Username: Enter a name **(4)** for the user
- ➔ Password: Enter a password **(5)** for the user
- ➔ Click OK to add the user



Step 6 – Add a User Authentication Rule

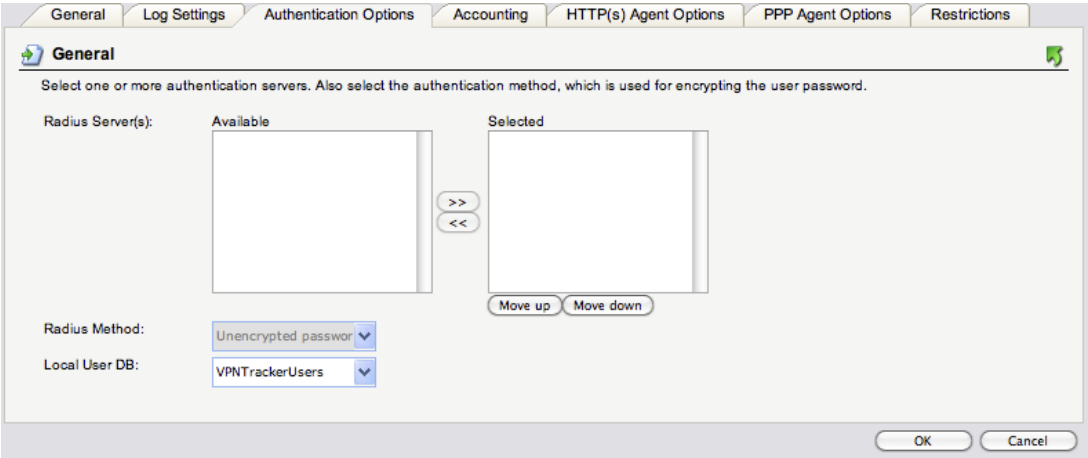
- ➔ Go to **User Authentication** > **User Authentication Rules**
- ➔ Click **Add** > **User Authentication Rule**

General

- ➔ **Name**: Enter a name for the authentication rule (e.g. VPN Tracker)
- ➔ **Agent**: Select **XAUTH**
- ➔ **Authentication Source**: Select **Local**
- ➔ **Originator IP**: Select **all-nets**

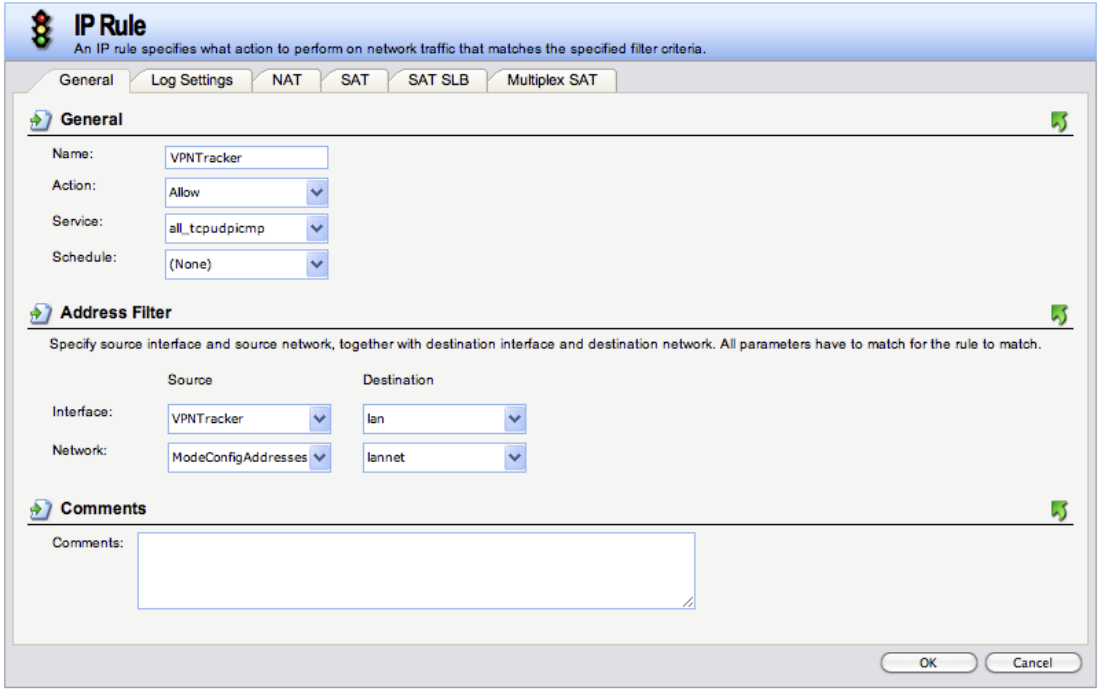
Authentication Options

- ➔ **Local User DB**: Select the database from step 5 (e.g. VPNTrackerUsers)
- ➔ All other settings are left at their default values.
- ➔ Click **OK** to add the authentication rule

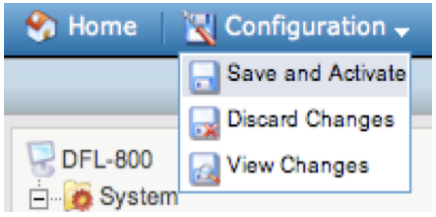


Step 7 – Add an Access Rule

- ➔ Go to **Rules** > **IP Rules**
- ➔ Click **Add** > **IP Rule Folder**
- ➔ **Name**: Enter a name for the folder (e.g. VPNTracker)
- ➔ Click **OK** to add the new folder
- ➔ Click **Add** > **IP Rule**
- ➔ **Name**: Enter a name for the IP rule (e.g. VPNTracker)
- ➔ **Action**: Select **Allow**
- ➔ **Service**: Select the services that VPN users are allowed to access. In most cases, **all_tcpudpicmp** will be a suitable choice
- ➔ Address Filter
  - ◆ **Source Interface**: Select the IPsec tunnel interface created in step 4 (e.g. VPNTracker)
  - ◆ **Source Network**: Select the address book entry for your Mode Config IP addresses (e.g. ModeConfigAddresses)
  - ◆ **Destination Interface**: Select the **lan** interface
  - ◆ **Destination Network**: Select the **lannet** network
- ➔ Click **OK** to add the IP rule

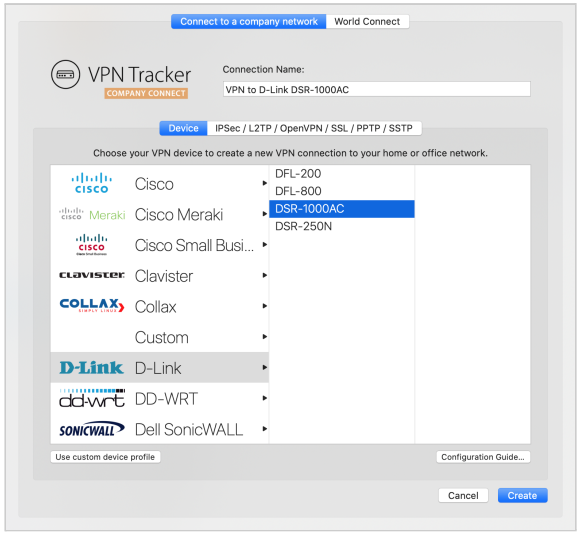


Important: Before being able to use your newly set up VPN tunnel, you will need to activate the configuration on the device: Click Configuration > Save and Activate, then follow the prompts to save and activate your configuration.



Task 2 – VPN Tracker Configuration

After finishing task 1, you should now have a completed configuration checklist containing your VPN gateway's settings. We will now create a matching configuration in VPN Tracker.

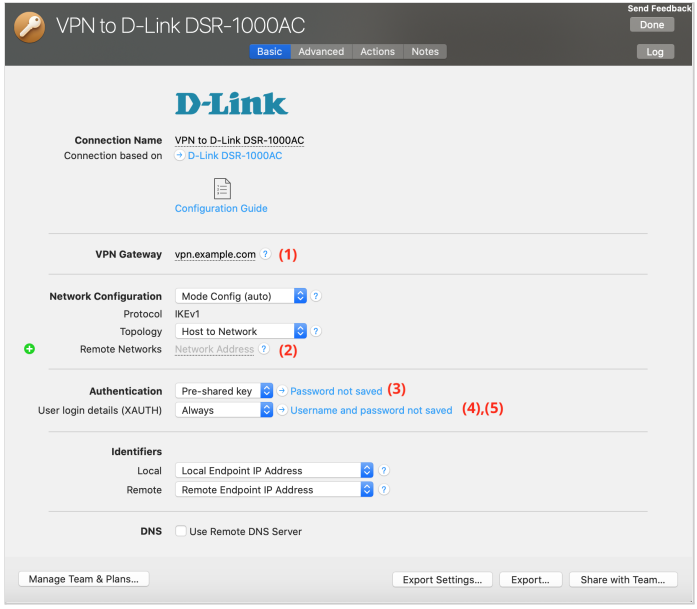


Step 1: Add a connection

- ➔ Open VPN Tracker 365.
- ➔ Click on the + in the bottom left corner of the app window and select "**Create new Company Connection**"
- ➔ Select **D-Link** from the list.
- ➔ Select your model (e.g. DSR-1000AC) and enter a name for your connection.

Step 2 – Configure the VPN Connection

Once you have added the new connection, there are a few settings that need to be customized to match what is configured on your VPN gateway.



Once you have added the new connection, there are a few settings that need to be customized to match what is configured on your VPN gateway.

- ➔ **VPN Gateway**: Enter the WAN IP address (or hostname) of your VPN gateway that you wrote down as **(1)**
- ➔ **Remote Networks**: Enter your device's LAN network **(2)**
- ➔ Under **Authentication**, enter the **Pre-Shared Key** **(3)** you configured earlier on. Check the box **Store in Keychain** to save the password in your keychain so you are not asked for it again when connecting the next time.
- ➔ Then, by **XAUTH**, enter your user credentials **(4)** and **(5)**
- ➔ Click **Done** to save your settings.

Task 3 - Testing the VPN connection

In order to test your connection, you will need to connect from a different location.

For example, if you are setting up a VPN connection to your office, try it out at home, or from an Internet cafe, or go visit a friend.

Connect to your VPN

- ➔ Check first of all that your internet connection is working as it should be. Use this link as a test: http://www.equinux.com
- ➔ Start the VPN Tracker 365 app.
- ➔ Click on the On/Off slider to turn on your connection.

IMPORTANT: If you are using VPN Tracker for the first time with your current Internet connection, it will test your connection. Wait for the test to complete.

Connected!

Connecting may take a couple of seconds. If the On/Off button turns blue that's great – you're connected! Now is a great time to take a look at the VPN Tracker Manual. It shows you how to use your VPN and how to get the most out of it.

Troubleshooting

In case there's a problem connecting, a yellow warning triangle will show up. Click the yellow warning triangle to be taken to the log.

The log will explain exactly what the problem is. Follow the steps listed in the log.

TIP: Press Cmd-L to open the log in a new window. That way, you can have the log side-by-side with your VPN configuration while making changes to troubleshoot a problem.

VPN Tracker Manual

The VPN Tracker Manual contains detailed troubleshooting advice. Answers to frequently asked questions (FAQs) can be found at: http://www.vpntracker.com/support

Technical Support

If you're stuck, the technical support team at equinux is here to help. Contact us via http://www.vpntracker.com/support

Please include the following information with any request for support:

- ➔ A description of the problem and any troubleshooting steps that you have already taken.
- ➔ A VPN Tracker Technical Support Report (Log > Technical Support Report).
- ➔ Device model and the firmware version running on it.
- ➔ Screenshots of the VPN settings on your VPN gateway.

IMPORTANT: A Technical Support Report contains the settings and logs necessary for resolving technical problems. Confidential information (e.g. passwords, private keys for certificates) is not included in a Technical Support Report.