Configuration Guide

How to establish IPsec VPN Tunnel between D-Link DSR Router and iPhone iOS

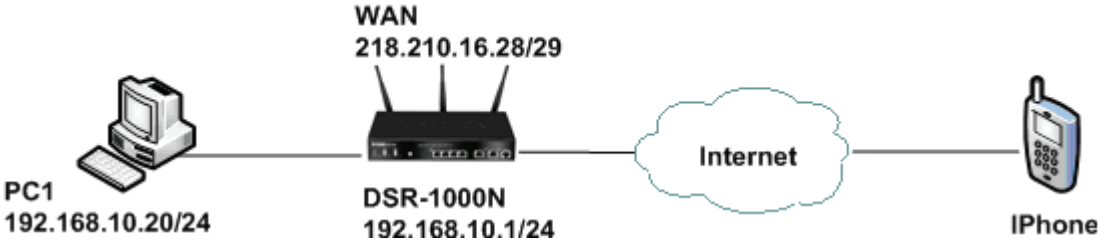
Overview

The iPhone is a line of smartphones designed and marketed by Apple Inc. It runs Apple's IOS mobile operation system, known as the "iPhone OS". Here we are going to use the built-in IPsec client of iPhone for VPN tunnel connection. Compared to PPTP and L2TP, IPsec VPN can deliver better security by extended authentication (XAUTH) that will authenticate user credential again via iPhone interface while tunnel establishment. With this extra protection, it will effectively avoid any unauthorized users to access critical and sensitive business information through the tunnel. This document describes how to configure both DSR router and iPhone to establish a secure IPsec VPN tunnel between two devices. All screenshots in this document is captured from firmware v1.06B53 of DSR-1000N. If you are not using this version of firmware, the screenshots many not be identically the same as what you see in your D-Link DSR device.

D-Link®

Situation note

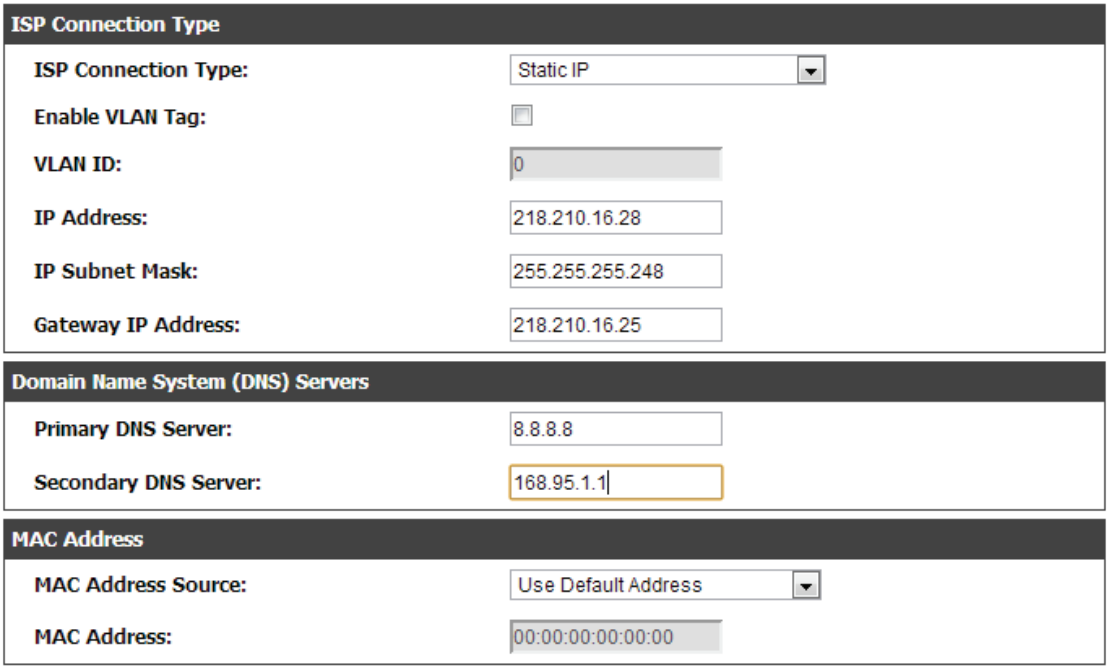
IPsec VPN allows road worriers to establish a safe connection to office to access enterprise internal resources or share business documents/plans/information. Since IPsec client had been embedded in many operation system including Windows and Apple IOS, road worriers can easily utilize it without any extra software or APPs installation. This document shows how road worriers connecting to internal PC/Server with full tunnel scenario using iPhone with few easy steps.



Configuration Step

1. Setup Internet Connection:

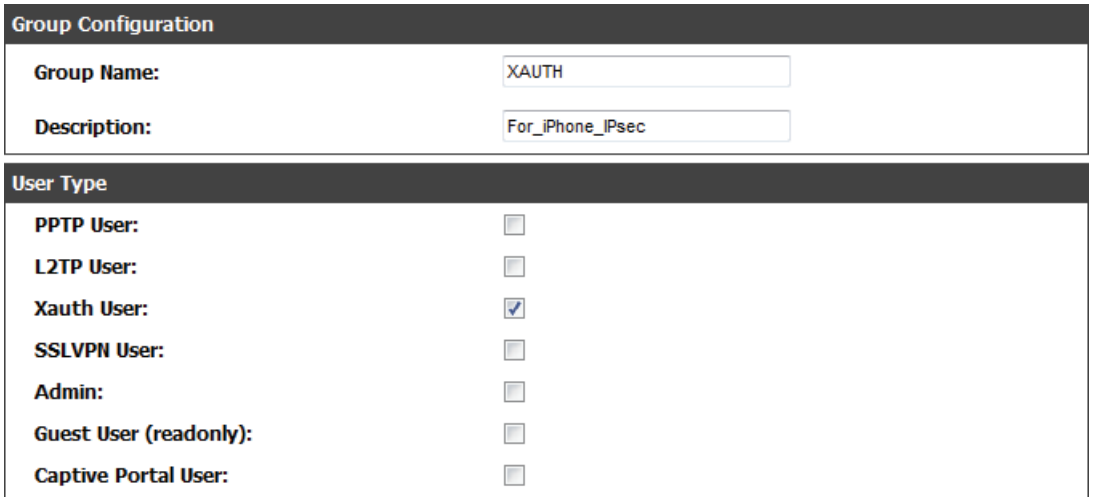
Please go to Setup > Internet Settings > WAN1 settings > WAN1 Setup



ISP Connection Type: please select your ISP connections. In this example, it's Static IP. ISP Configuration type will probably be different depends on your environment.

2. Create a user group for IPsec extended authentication

Please go to Advanced > Users > Groups



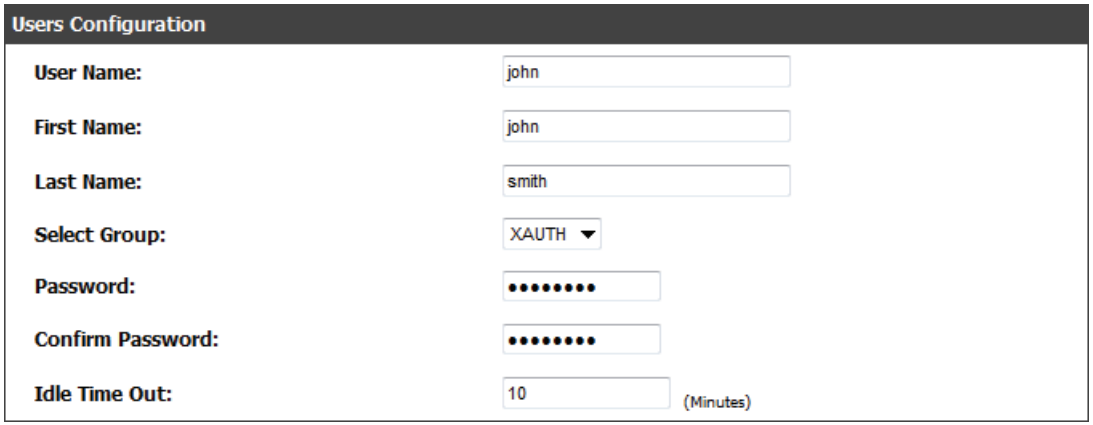
Group Name: please provide a name for the group.

Description: pleae provide proper description for the group.

User Type: Enable Xauth User

3. Create a user account belong to XAUTH user gorup

Please go to Advanced > Users > Users



User Name: this is actually user account for authentication, it's case sentitive. Here we use john for example.

First Name/Last Name: please provide proper description for user identification.

Select Group: please select XAUTH that we just created in previous step.

Password: Please configure password for the user.

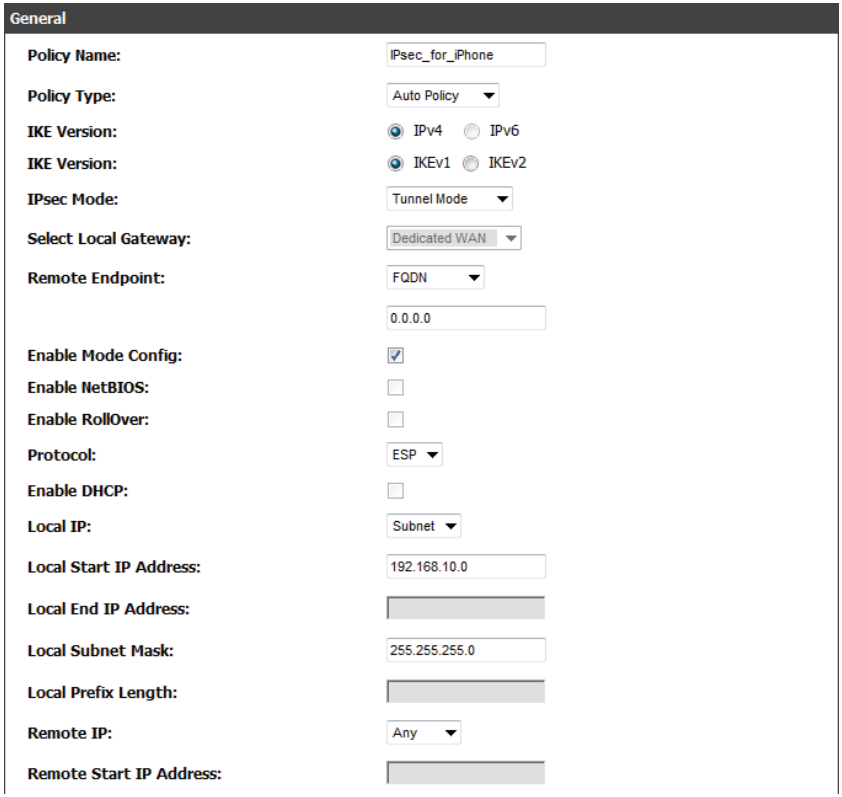
Confirm Password: Input password again for confirmation.

Idle Time Out: here we configure 10 minutes for idle time out.

4. Create a policy for iPhone IPsec client:

Please go to SETUP > VPN Settings > IPsec > IPsec Policies

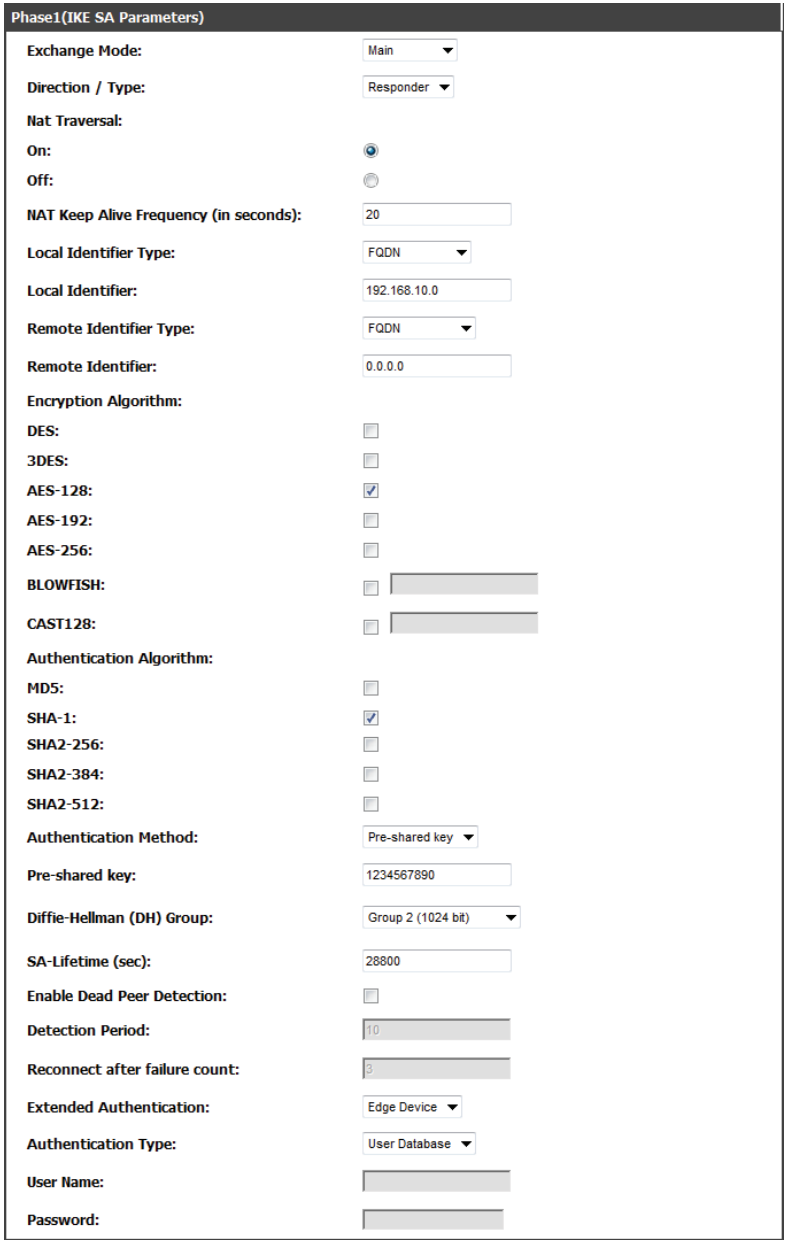
4.1 General Setting



Policy Name: please configure a name for policy management purpose.
Policy type: Default setting is ***Auto Policy***, please leave this option as default setting.
IP Protocol Version: Please configure to ***IPv4*** (default setting).
IKE Version: Please configure to ***IKEv1*** (default setting).
IPsec Mode: Default is ***Tunnel Mode***, please keep this option as default setting.
Select Local Gateway: Please keep this setting as ***Dedicated WAN***.
Remote Endpoint: Please select ***FQDN*** with ***0.0.0.0*** configuration.
Enable Mode Config: Please ***Enable*** this check box.
Protocol: Please configure ***ESP*** to IPsec protocol.
Local IP: Here is to define local network scope for IPsec connectivity. Please select ***Subnet*** in this example.
Local Start IP Address: Please configure ***192.168.10.0*** in this example for network address of DSR LAN network.
Local Subnet Mask: Please configure ***255.255.255.0*** in this example for Subnet Mask of DSR LAN networks.

Remote IP: Please configure to ***Any*** in this option. The Remote IP means iPhone's IP address which usually assigned by ISP for road worriers scenario.

4.2 Phase 1 (IKE SA Parameters) settings



Exchange Mode: ***Main mode***

Direction/Type: ***Responder***

NAT Traversal: ***ON***

Local Identifier Type: ***FQDN***

Local Identifier: ***192.168.10.0***

Remote Identifier Type: ***FQDN***

Remote Identifier: ***0.0.0.0***

Encryption Algorithm: ***AES-128***

Authentication Algorithm: ***SHA-1***

Authentication Method: ***Pre-shared Key***

Pre-shared Key: Please configure a proper pre-shared key and this setting will be used on iPhone setting. In this case, the Pre-Shared Key is 1234567890 for example.

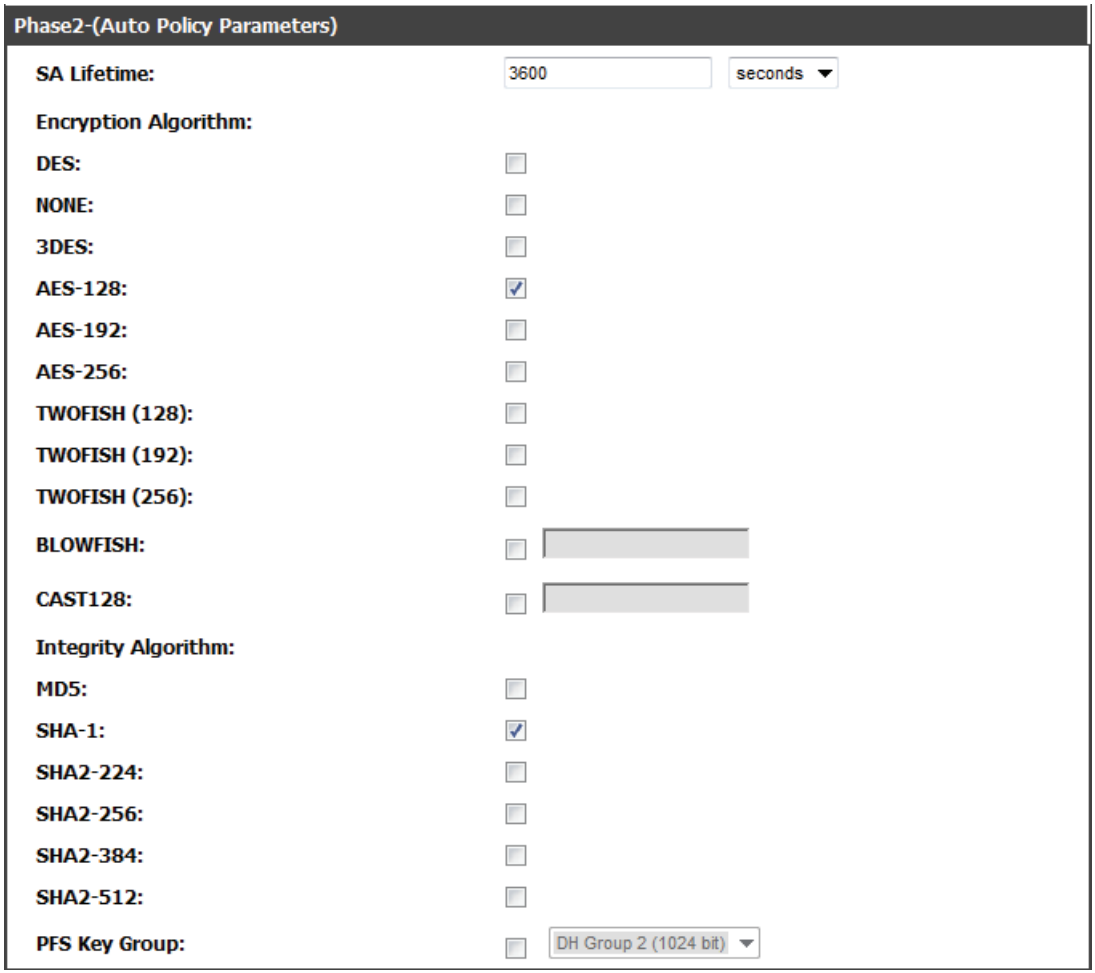
Diffie-Hellman (DH) Group: ***Group 2 (1024 bit)***

SA-Lifetime (sec): ***28800***

Extended Authentication: ***Edge Device***

Authentication Type: ***User Database***

4.3 Phase 2 (Auto Policy Parameters) settings



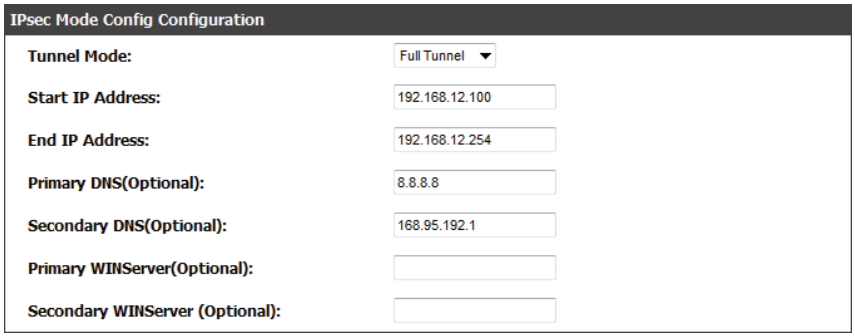
SA Lifetime (sec): ***3600 seconds***

Encryption Algorithm: ***AES-128***

Integrity Algorithm: ***SHA-1***

5. Configure IPsec Mode Config

Please go to Setup > VPN Settings > IPsec > IPsec Mode Config



Tunnel Mode: Full Tunnel

Start IP Address: 192.168.12.100

End IP Address: 192.168.12.254

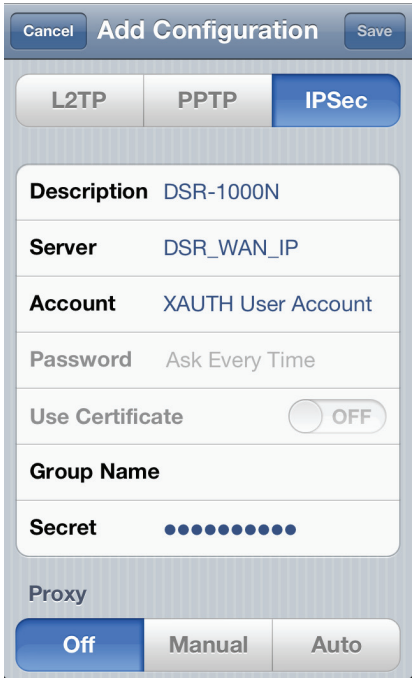
Primary DNS (Optional): 8.8.8.8 (This setting will assign DNS Server information to iPhone.)

Secondary DNS (Optional): 168.95.192.1 (Please assign a secondary DNS server to ensure name resolution still works properly if Primary DNS Server is down).

iPhone Setup

1. Create a IPsec VPN profile

Please go to Settings > General > Network > VPN > Add VPN Configuration…



Description: A profile name for this IPsec VPN connection.

Server: Please enter an IP address of DSR WAN interface. In this example, it should be 218.210.16.28.

Account: Please fill-out your user account belong to XAUTH group. In this example, it should be "john" that we just created in the step 3.

Password: Not Required. iPhone will automatically pop up a window to request password authentication while IPsec tunnel establishment.

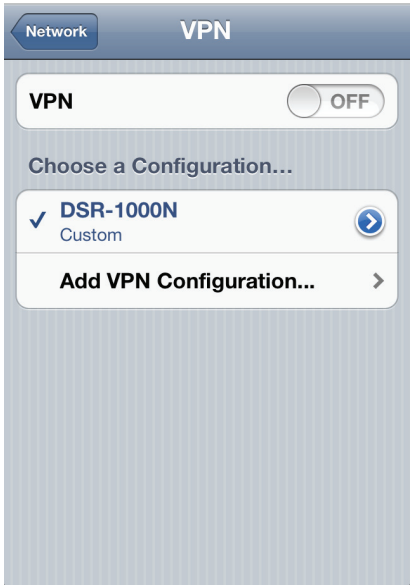
Group Name: Not Required.

Secret: Please fill in the Pre-shared key information that you have configured in step 4.2. In this case, the pre-shared key is 1234567890.

Proxy: Off

2. Launch IPsec VPN tunnel connection to DSR router.

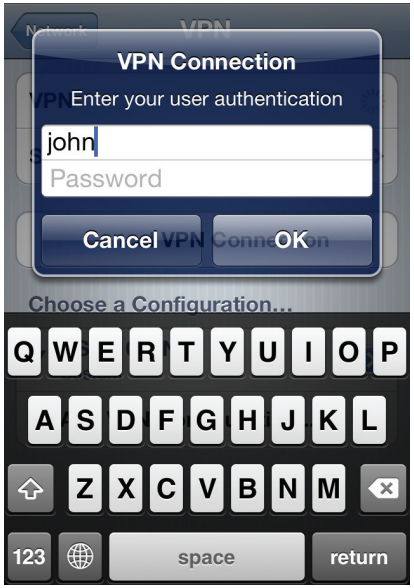
Please go to Settings > General > Network > VPN:



Choose a Configuration: Please ensure that selected profile is correct since iPhone allows creating multiple profiles. In this case, please select "DSR-1000N" that we just created in the step 1.

VPN: please switch to "ON" to launch IPsec VPN tunnel connecting to DSR router.

3. Input user password in pop-up window of iPhone



Password: Please fill in password you have created in DSR configuration step 3.

Visit our website for more information
www.dlink.com