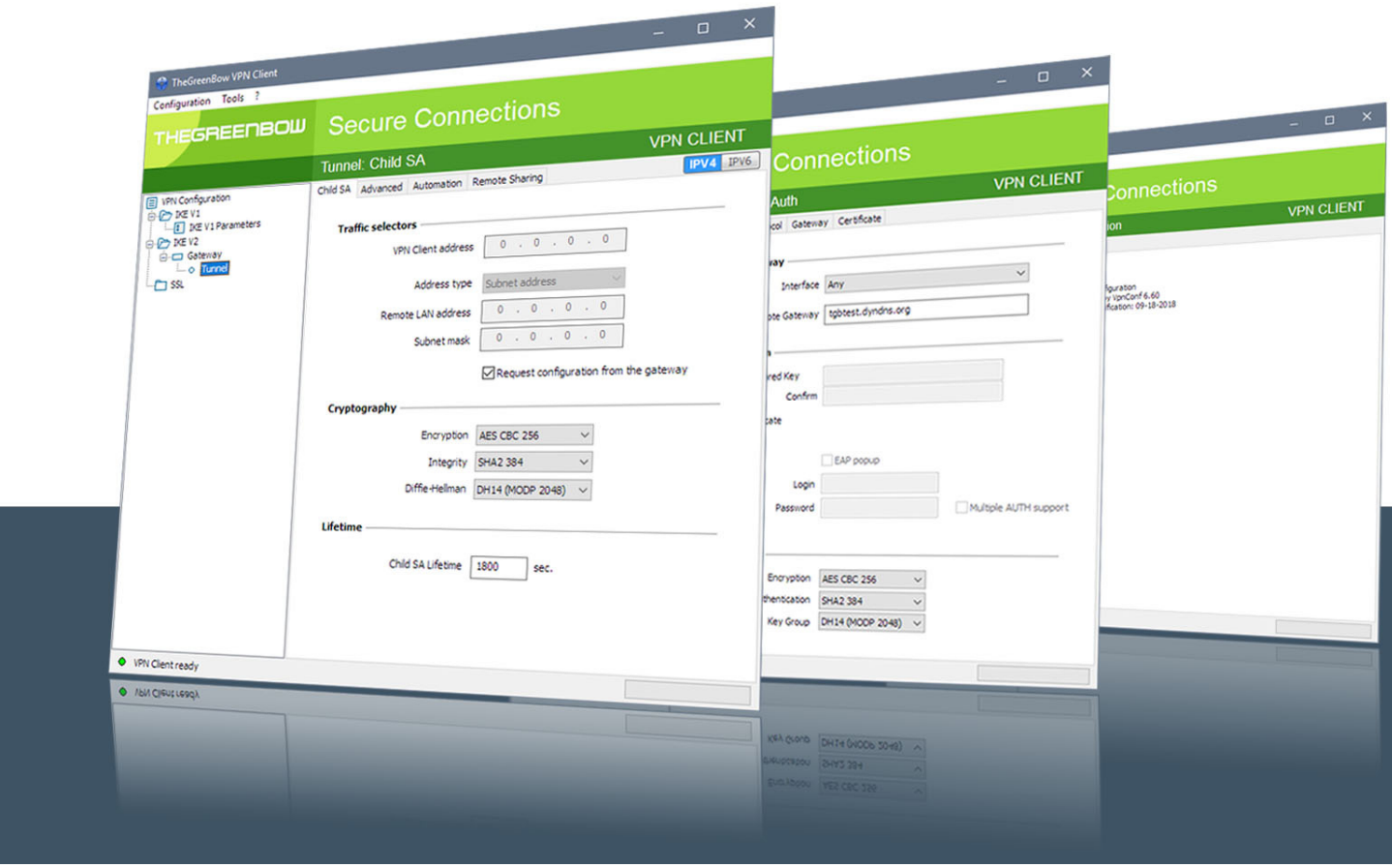


TheGreenBow VPN Client

Configuration Guide OpenVPN

Website: **www.thegreenbow.com**
Contact: **support@thegreenbow.com**

Property of TheGreenBow – Sistech S.A. © 2018

Table of Contents

Property of TheGreenBow – Sistech S.A. © 2018

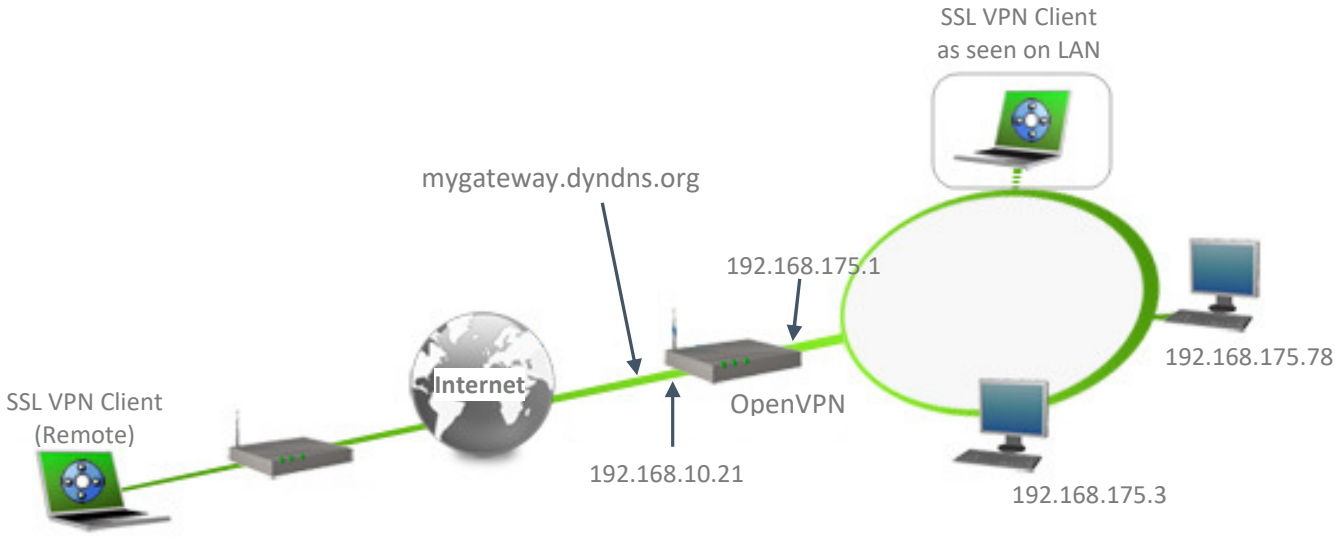
1 Introduction

1.1 Goal of this document

This configuration guide describes how to configure TheGreenBow SSL VPN Client software with a OpenVPN VPN router to establish VPN connections for remote access to corporate network.

1.2 VPN Network topology

In our VPN network example (diagram hereafter), we will connect TheGreenBow VPN Client software to the LAN behind the OpenVPN router. The VPN client is connected to the Internet with a DSL connection or through a LAN. All the addresses in this document are given for example purpose.



1.3 OpenVPN Restrictions

No known restrictions

1.4 OpenVPN VPN Gateway

Our tests and VPN configuration have been conducted with OpenVPN version 2.4.

1.5 OpenVPN VPN Gateway product info

It is critical that users find all necessary information about OpenVPN VPN Gateway. All product info, User Guide and knowledge base for the OpenVPN VPN Gateway can be found on the OpenVPN website: **https://openvpn.net/**

OpenVPN Product page	**https://openvpn.net/**
OpenVPN User Guide	**https://openvpn.net/index.php/open-source/documentation.html**
OpenVPN FAQ	**https://community.openvpn.net/openvpn/wiki/FAQ**

Property of TheGreenBow – Sistech S.A. © 2018

2 OpenVPN VPN configuration

This section describes how to build an SSL VPN configuration with your OpenVPN VPN router.

2.1 Server Certificates

Once connected to your OpenVPN VPN gateway, make sure you have Certificate authority configured and these certificates are ready and copied to concerned folders.

- **"server.crt"** - Certificate of the OpenVPN machine. This file needs to be copied to folder "/etc/openvpn/"

- **"server.key"** - Certificate private key of the OpenVPN machine. This file needs to be copied to folder "/etc/openvpn/"

- **"ca.crt"** - Certificate authority certificate for all certificates. This file needs to be copied to folder "/etc/openvpn/"

- **"dh.pem"** - Diffie Hellman parameters file. This file needs to be copied to folder "/etc/openvpn/"

2.2 Client Certificates

- **"client1.crt"** - User certificate to be imported to VPN Client.
- **"client1.key"** - User certificate's private key to be imported to VPN Client.
- **"ca.crt"** - CA certificate of user certificate.

It is also possible to create single file **"client1.p12"** or **"client1.pfx"** using above 3 files and import to VPN Client.

Property of TheGreenBow – Sistech S.A. © 2018

2.3 Create VPN connections in OpenVPN

Once done, go to terminal command prompt and edit following files. Set the contents as follows.

#---------- Contents of file: /etc/openvpn/server.conf

```
# Protocol, Port and interface
port 1194
proto udp
dev tun

# Path to files
ca keys/ca.crt
cert keys/server.crt
key keys/server.key
dh keys/dh1024.pem

# Virtual IP and other configuration
server 10.50.50.0 255.255.255.0
ifconfig-pool-persist ipp.txt
keepalive 10 120
comp-lzo
user nobody
group nogroup
persist-key
persist-tun
status openvpn-status.log
verb 3

# Define the network range to be accessed by VPN Clients.
push "route 192.168.175.0 255.255.250.0"
```

#---------- end of file

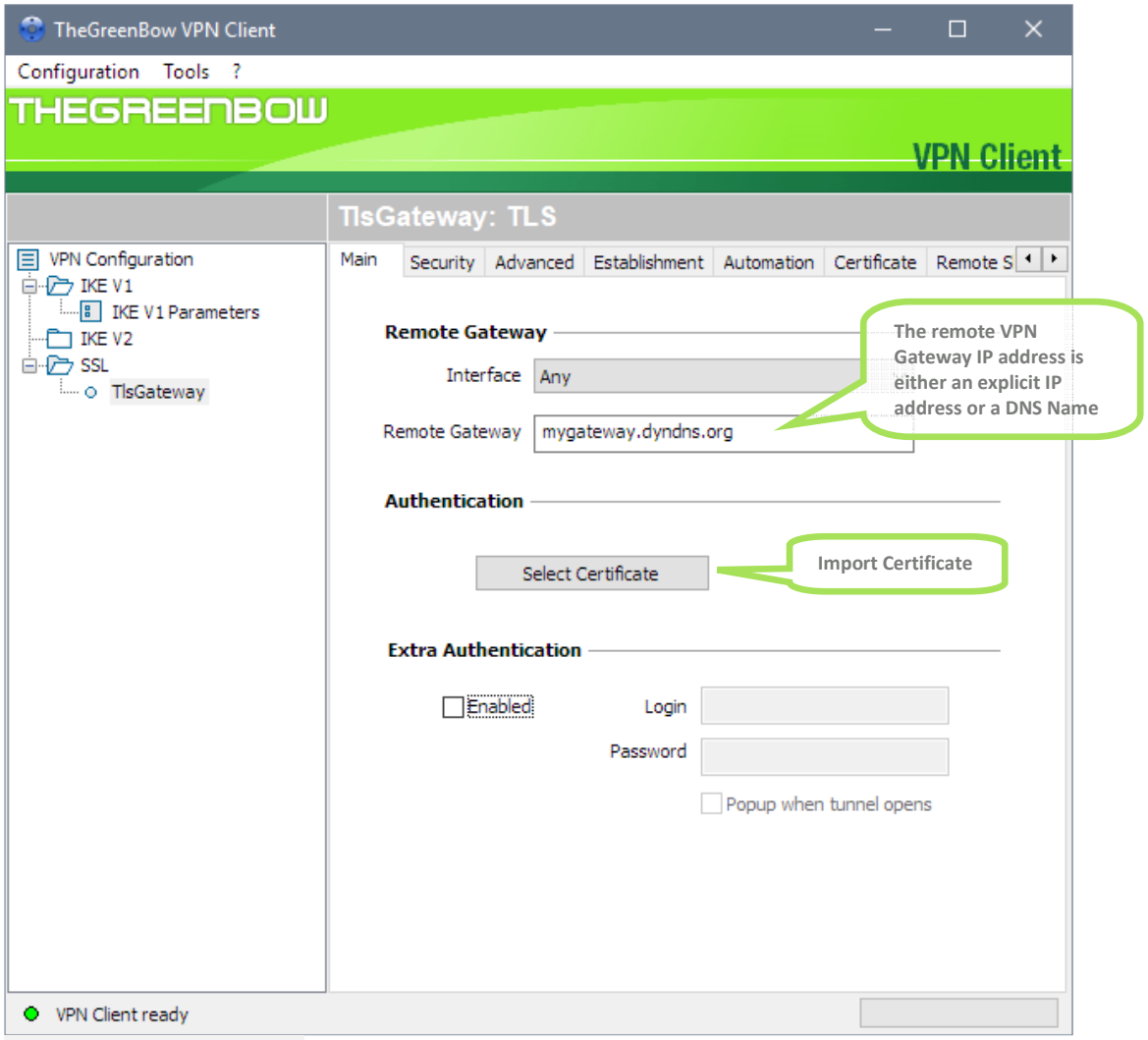
Once the file edited, start OpenVPN server by executing command : "openvpn /etc/openvpn/server.conf"

Property of TheGreenBow – Sistech S.A. © 2018

3 TheGreenBow VPN Client configuration

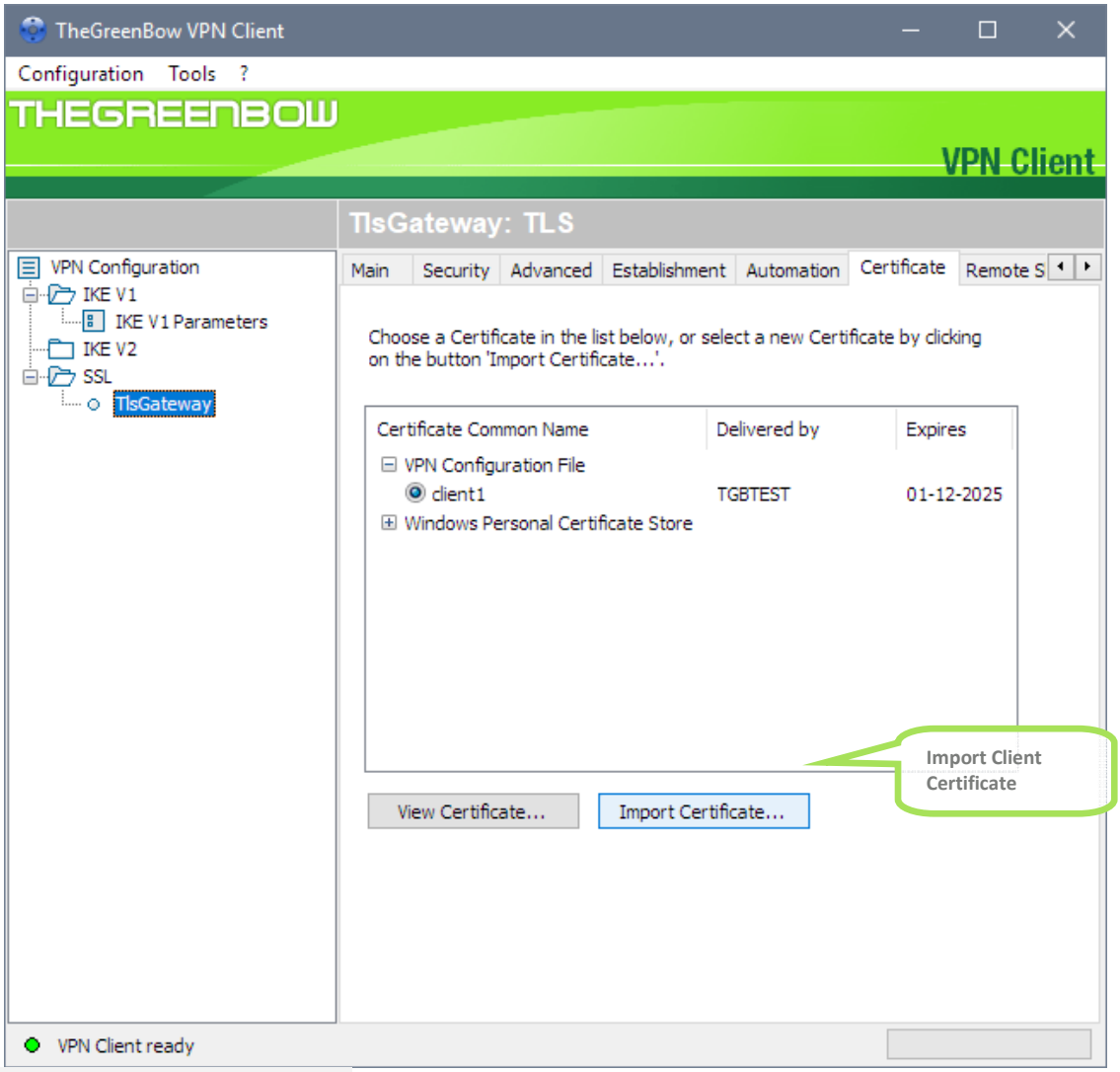
This section describes the required configuration to connect to a OpenVPN VPN router via VPN connections.
To download the latest release of TheGreenBow VPN Client software, please go to
www.thegreenbow.com/vpn_down.html.

3.1 VPN Client - SSL Configuration



SSL Main configuration

Property of TheGreenBow – Sistech S.A. © 2018



SSL Certificate configuration

This configuration is one example of what can be accomplished in term of User Authentication. You may want to refer to either the OpenVPN router user guide or TheGreenBow VPN Client software User Guide for more details on User Authentication options.

Property of TheGreenBow – Sistech S.A. © 2018

3.2 Open SSL VPN tunnels

Once both OpenVPN router and TheGreenBow VPN Client software have been configured accordingly, you are ready to open VPN tunnels. First make sure you enable your firewall with SSL traffic.

1/ Select menu "**Configuration**" and "**Save**" to take into account all modifications we've made on your VPN Client configuration.

2/ Double Click on your SSL tunnel name or Click "**Open**" button in Connection panel to open tunnel.

3/ Select menu "**Tools**" and "**Console**" if you want to access to the SSL VPN logs. The following example shows a successful connection between TheGreenBow VPN Client and a OpenVPN VPN router.

```
20181005 11:33:31:966 Default reinitializing daemon
20181005 11:33:32:006 TSSL_TlsGateway configuration OK
20181005 11:34:04:448 TSSL_TlsGateway OVPN connection is opening.
20181005 11:34:04:935 TSSL_TlsGateway TLS Handshake completed.
20181005 11:34:04:977 TSSL_TlsGateway OVPN options and keys received.
20181005 11:34:05:025 TSSL_TlsGateway OVPN connection established.
20181005 11:34:05:025 TSSL_TlsGateway OVPN renewal in 3600 seconds (12:34:05)
20181005 11:34:05:059 TSSL_TlsGateway [VirtualItf] Virtual Interface properly configured for instance 2 and ItfIndex 60.
20181005 11:34:15:180 TSSL_TlsGateway OVPN traffic reception OK.
```


Property of TheGreenBow – Sistech S.A. © 2018

4 Tools in case of trouble

Configuring an SSL VPN tunnel can be a hard task. One missing parameter can prevent a VPN connection from being established. Some tools are available to find source of troubles during a VPN establishment.

4.1 A good network analyser: Wireshark

Wireshark is a free software that can be used for packet and traffic analysis. It shows IP or TCP packets received on a network card. This tool is available on website **www.wireshark.org**. It can be used to follow protocol exchange between two devices. For installation and use details, read its specific documentation (**www.wireshark.org/docs/**).

1	0.000000	88.162.180.74	192.168.200.8	OpenVPN	95	MessageType: P_DATA_V1
3	0.746124	192.168.200.8	88.162.180.74	OpenVPN	295	MessageType: P_DATA_V1
4	2.807021	192.168.200.8	88.162.180.74	TLSv1	93	Encrypted Alert
5	2.836198	88.162.180.74	192.168.200.8	OpenVPN	64	MessageType: P_ACK_V1
117	8.358054	192.168.200.8	88.162.180.74	OpenVPN	56	MessageType: P_CONTROL_HARD_RESET_CLIENT_V2
119	8.389836	88.162.180.74	192.168.200.8	OpenVPN	68	MessageType: P_CONTROL_HARD_RESET_SERVER_V2
120	8.392067	192.168.200.8	88.162.180.74	TLSv1	154	Client Hello
122	8.432262	88.162.180.74	192.168.200.8	OpenVPN	64	MessageType: P_ACK_V1
123	8.433675	88.162.180.74	192.168.200.8	OpenVPN	156	MessageType: P_CONTROL_V1
124	8.434438	192.168.200.8	88.162.180.74	OpenVPN	64	MessageType: P_ACK_V1
125	8.435125	88.162.180.74	192.168.200.8	OpenVPN	156	MessageType: P_CONTROL_V1
126	8.435125	88.162.180.74	192.168.200.8	OpenVPN	156	MessageType: P_CONTROL_V1
127	8.435304	192.168.200.8	88.162.180.74	OpenVPN	64	MessageType: P_ACK_V1
128	8.435334	192.168.200.8	88.162.180.74	OpenVPN	64	MessageType: P_ACK_V1
129	8.436611	88.162.180.74	192.168.200.8	OpenVPN	156	MessageType: P_CONTROL_V1
130	8.436790	192.168.200.8	88.162.180.74	OpenVPN	64	MessageType: P_ACK_V1
132	8.465161	88.162.180.74	192.168.200.8	OpenVPN	156	MessageType: P_CONTROL_V1
133	8.465409	192.168.200.8	88.162.180.74	OpenVPN	64	MessageType: P_ACK_V1
134	8.466782	88.162.180.74	192.168.200.8	OpenVPN	156	MessageType: P_CONTROL_V1
135	8.466938	192.168.200.8	88.162.180.74	OpenVPN	64	MessageType: P_ACK_V1
136	8.468147	88.162.180.74	192.168.200.8	OpenVPN	156	MessageType: P_CONTROL_V1
137	8.468148	88.162.180.74	192.168.200.8	OpenVPN	156	MessageType: P_CONTROL_V1
138	8.468314	192.168.200.8	88.162.180.74	OpenVPN	64	MessageType: P_ACK_V1
139	8.468339	192.168.200.8	88.162.180.74	OpenVPN	64	MessageType: P_ACK_V1

Property of TheGreenBow – Sistech S.A. © 2018

5 VPN SSL Troubleshooting

5.1 “Connection aborted” error

```
20XX1005 11:39:23:757 TSSL_TlsGateway configuration OK
20XX1005 11:39:25:667 TSSL_TlsGateway OVPN connection is opening.
20XX1005 11:39:28:728 TSSL_TlsGateway OVPN 3 attempts to send packet id 0 with no response.
Aborting connection.
20XX1005 11:39:28:728 TSSL_TlsGateway OVPN connection aborted.
```

Read logs of SSL VPN Router if it received the VPN Client request. SSL requests can be dropped by firewalls. An SSL Client uses UDP port 1194 by default.
Check if the remote server is online.

Property of TheGreenBow – Sistech S.A. © 2018

6 Contacts

News and updates on TheGreenBow web site: **www.thegreenbow.com**

Technical support by email at: **support@thegreenbow.com**

Sales contacts by email at: **sales@thegreenbow.com**

Property of TheGreenBow – Sistech S.A. © 2018

Secure, Strong, Simple

TheGreenBow Security Software