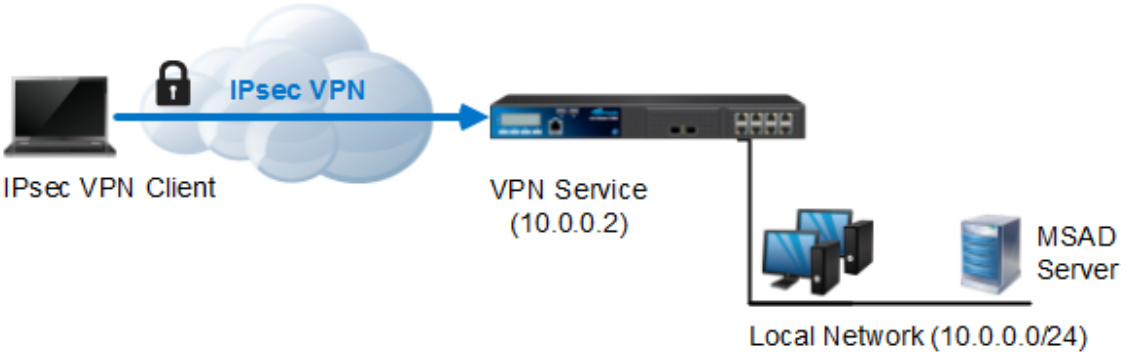
How to Configure a Client-to-Site IPsec VPN with Client Certificate Authentication

https://campus.barracuda.com/doc/43847266/

Use a Client-to-Site VPN to let mobile workers connect securely to your Barracuda NG Firewall. Each client must have a valid client certificate as well as the username and password to authenticate. By default, each user can have only one concurrent Client-to-Site VPN connection. A Remote Access Premium subscription is required to enable multiple concurrent Client-to-Site VPN sessions by the same user.



In this article:

Supported VPN Clients

You can use any standard-based IPsec VPN client. However, only the following clients are supported with the Barracuda NG Firewall:

- The Barracuda VPN Client
- Apple iOS Devices
- Android

Before You Begin

- Verify that the **server** and **default certificates** are installed and use DNS: *FQDN (e.g.,*

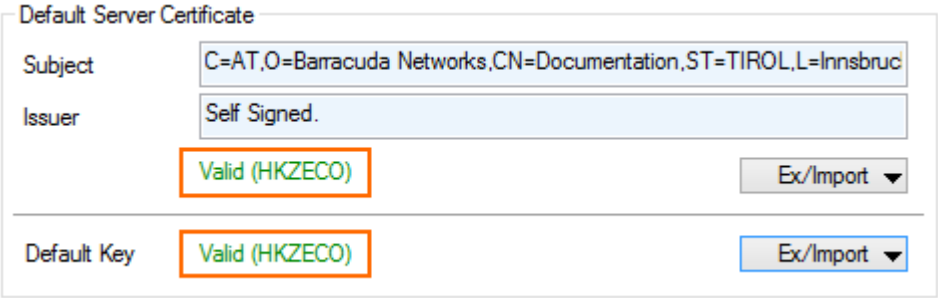
DNS:vpn.mydomain.com) as the **SubAltName**. This is necessary for iOS and Android devices to able to connect. The FQDN must resolve to the IP address the VPN service is listening on. For more information, see How to Set Up VPN Certificates.

- Configure an external or local authentication service. For more information, see Authentication.
- Identify the subnet and gateway address to use for the VPN service in your network (e.g., `192.168.6.0/24` *and* `192.168.6.254`).
- Identify the IP address the VPN service is listening on. If you are using a dynamic WAN IP, see How to Configure VPN Access via a Dynamic WAN IP Address.

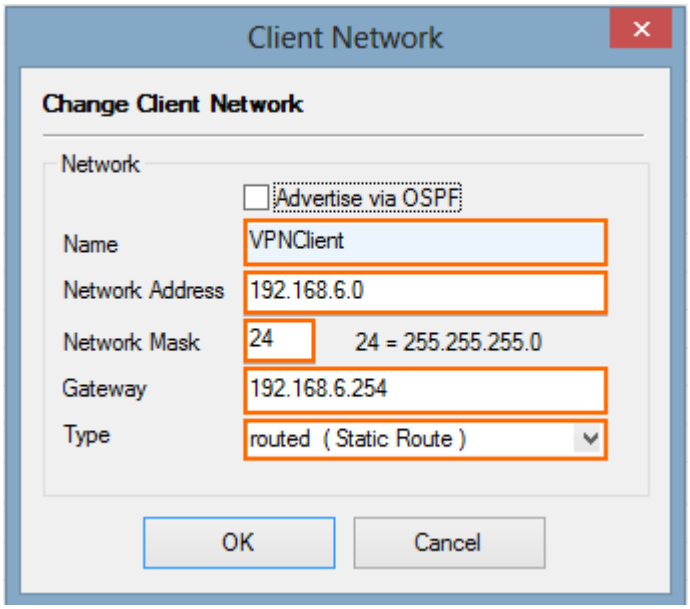
Step 1. Create the VPN Client Network

All VPN clients will receive an IP address from the VPN client network with a static gateway. You can choose the gateway IP address freely from the subnet.

1. Go to **CONFIGURATION > Configuration Tree > Box > Virtual Servers > *your virtual server* > Assigned Services > VPN-Service > VPN Settings**.
2. Click **Lock**.
3. Verify that the default server certificate and key are valid.
   1. Right-click the **Settings** table and select **Edit Server Settings**.
   2. Verify that the **Default Server Certificate** and **Default Key** are both valid (green). If the **Default Server Certificate** and **Default Key** are not valid, seeHow to Set Up VPN Certificates.



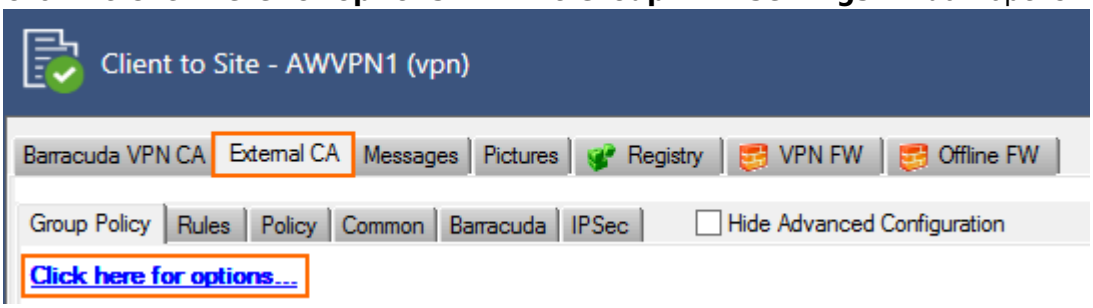
   3. Click **OK** to close the **Server Settings** window.
4. Configure the client network.
   1. Click the **Client Networks** tab.
   2. Right-click the table and select **New Client Network**. The **Client Network** window opens.
   3. In the **Client Network** window, configure the following settings:
      - **Name** – Enter a descriptive name for the network.
      - **Network Address** – Enter the base network address for the VPN clients. E.g., `192.168.6.0`
      - **Network Mask** – Enter the subnet mask for the VPN client network. E.g., 24
      - **Gateway** – Enter the gateway network address. E.g., 192.168.6.254
      - **Type** – Select **routed (Static Route)**. VPN clients are assigned an address via DHCP (fixed or dynamic) in a separate network reserved for the VPN. A static route on the Barracuda NG Firewall leads to the local network.



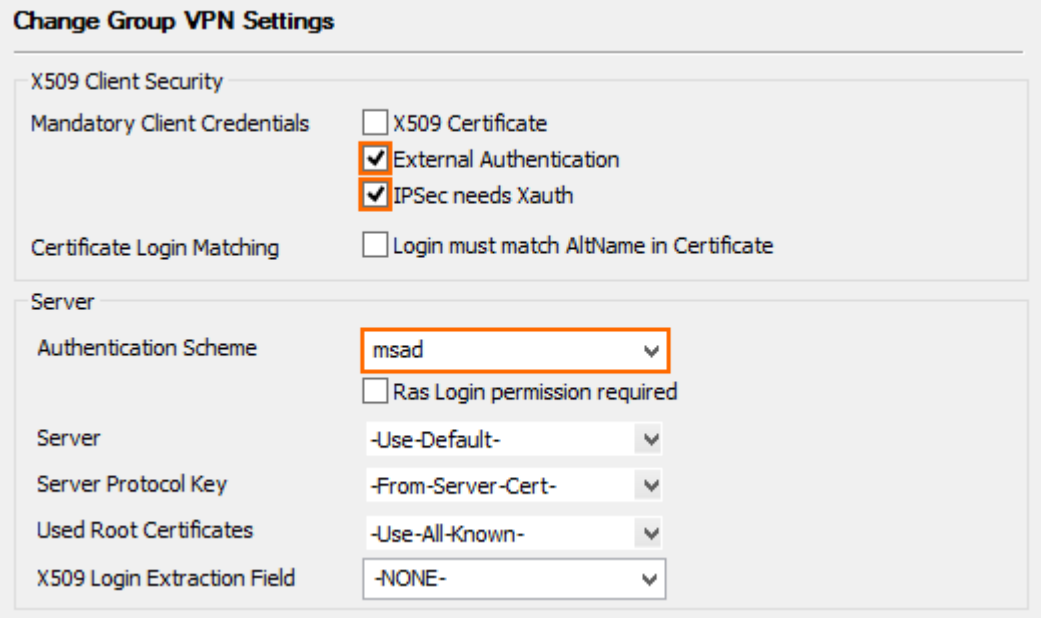
5. Click **OK**.
6. Click **Send Changes** and then click **Activate**.

Step 2. Configure VPN Group Match Settings

1. Go to **CONFIGURATION > Configuration Tree > Box > Virtual Servers > *your virtual server* > Assigned Services > VPN-Service > Client to Site**.
2. Click **Lock**.
3. Click the **External CA** tab.
4. Click the **Click here for options** link. The **Group VPN Settings** window opens.



5. In the **Group VPN Settings** window, configure the following settings:
    1. In the **X509 Client Security** section, select the **External Authentication** checkbox.
    2. In the **Server** section, select your previously configured authentication service from the **Authentication Scheme** list. For more information, see Authentication.



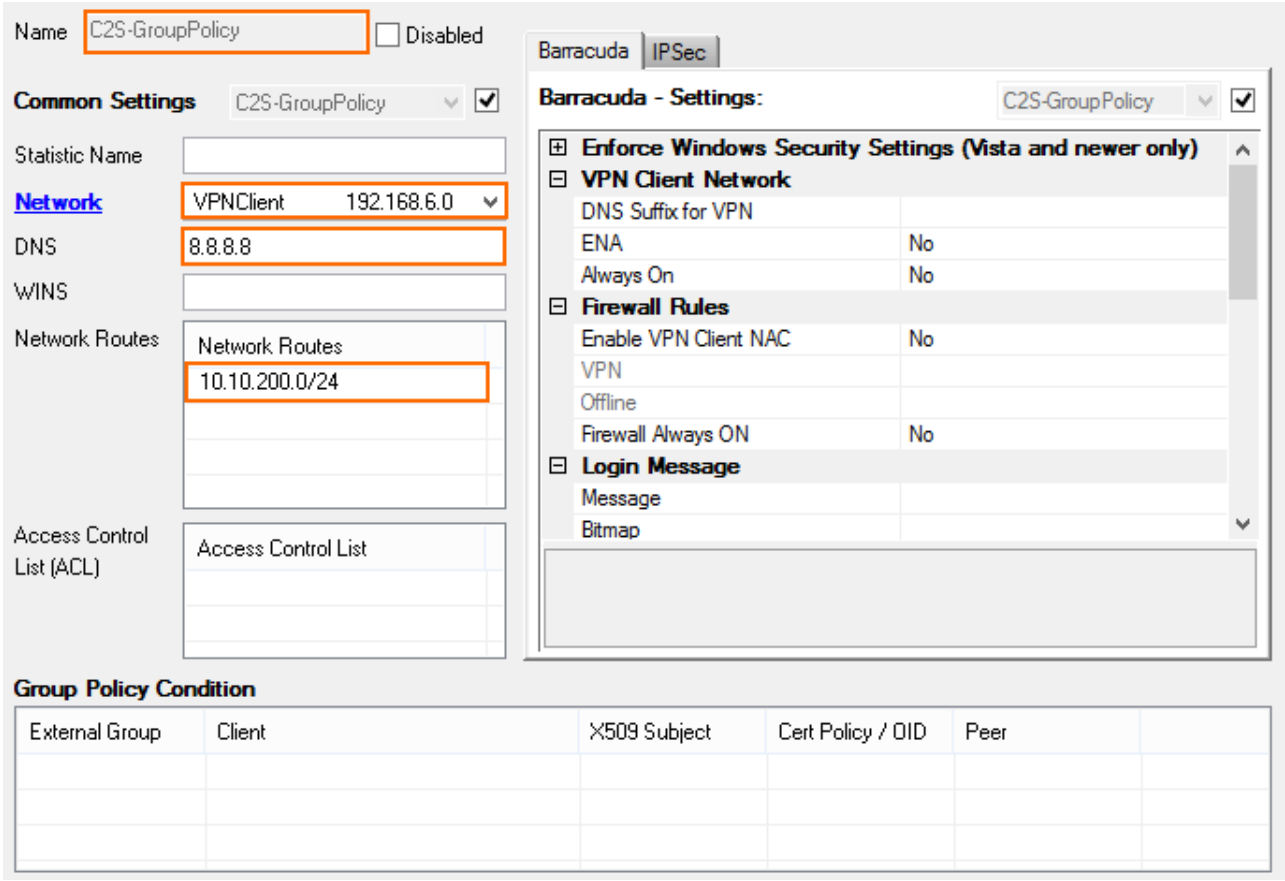
6. Click **OK**.
7. Click **Send Changes** and **Activate**.

Step 3. Create a VPN Group Policy

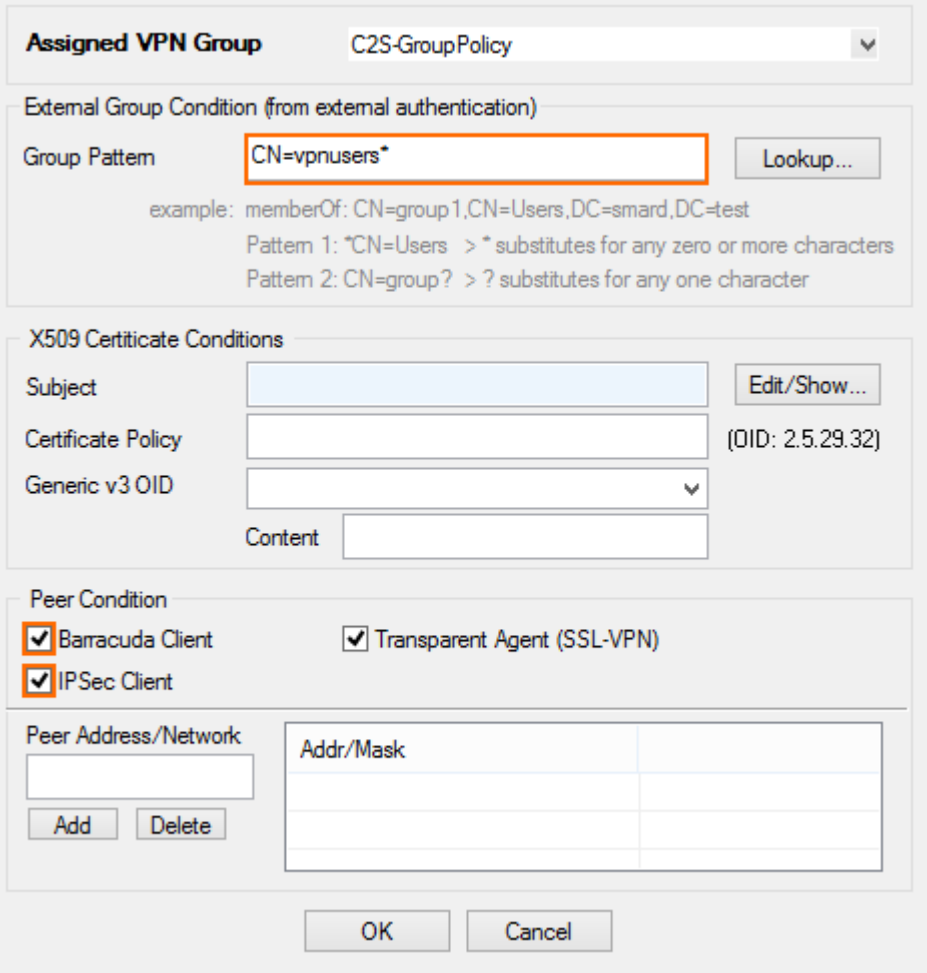
The VPN Group Policy specifies the network IPsec settings. You can group patterns to require users to meet certain criteria, as provided by the group membership of the external authentication server (e.g., `CN=vpnusers*`). You can also define conditions to be met by the certificate (e.g., `O(Organization)` must be the company name).

1. Go to **CONFIGURATION > Configuration Tree > Box > Virtual Servers > *your virtual server* > Assigned Services > VPN-Service > Client to Site**.
2. Click **Lock**.
3. Click on the **External CA** tab and then click the **Group Policy** tab.
4. Right-click the table and select **New Group Policy**. The **Edit Group Policy** window opens.
5. Enter a name for the **Group Policy**.
6. From the **Network** list, select the VPN client network.
7. In the **Network Routes** table, enter the network that must be reachable through the VPN connection. For example, `10.10.200.0/24`.

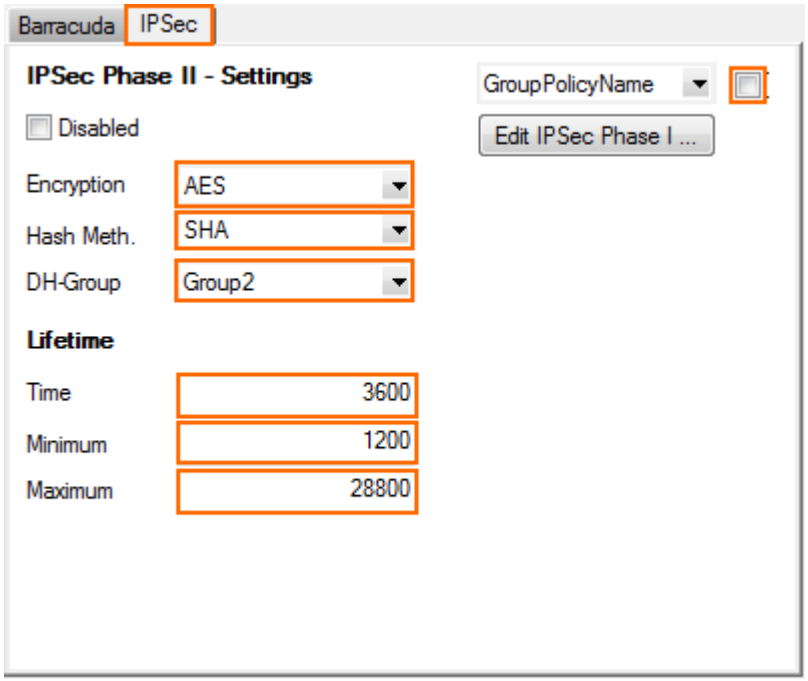
   To route all traffic through the Client-to-Site VPN tunnel, add a `0.0.0.0/0` network route.



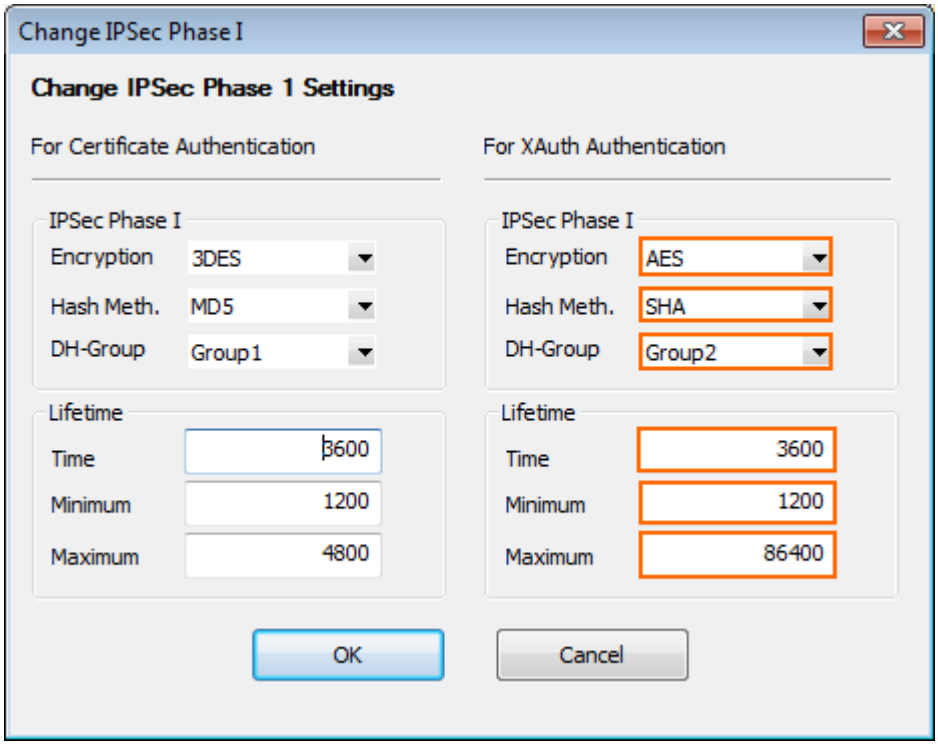
8. Configure the group policy.
    1. Right-click the **Group Policy Condition** table and select **New Rule**. The **Group Policy Condition** window opens.
    2. In the **Group Pattern** field, define the groups that will be assigned the policy. E.g.: `CN=vpnusers*`
    3. In the **Peer Condition** section, verify that **IPsec Client** checkbox is selected.
    4. In the **X509 Certificate Conditions** section enter matching conditions for the X509 client certificates.
9. Click **OK**.



10. Configure the encryption and hashing settings:
    1. Click the **IPSec** tab.
    2. Clear the checkbox in the top-right corner.
    3. From the **IPsec Phase II - Settings** list, select the entry that includes **(Create New)** in its name. For example, if you choose *Group Policy* as a name, the entry name is *Group Policy (Create new).*
    4. Set the following encryption algorithm settings for Phase II:
        - **Encryption** – Select **AES.**
        - **Hash Meth.** – Select **SHA**.
        - **DH-Group** – Select **Group2**.
        - **Time** – Enter `3600`.
        - **Minimum** – Enter `1200.`
        - **Maximum** – Enter `28800.`



5. Click **Edit IPsec Phase I** and select the encryption algorithm in the **For XAuth Authentication** section:
   - **Encryption** – Select **AES.**
   - **Hash Meth.** – Select **SHA**.
   - **DH-Group** – Select **Group2**.
   - **Time** – Enter `3600`.
   - **Minimum** – Enter `1200`.
   - **Maximum** – Enter `86400`.



6. Click **OK** .

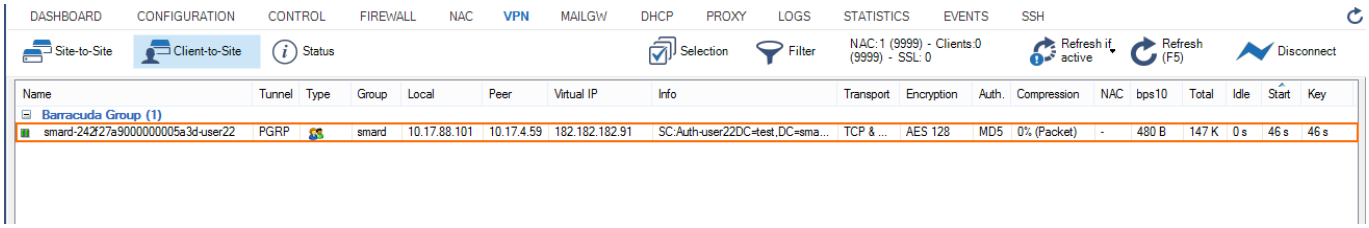
11. Click **Send Changes** and then click **Activate**.

Step 4. Add Access Rules

Add an access rule to connect your Client-to-Site VPN to your network. For more information, see How to Configure an Access Rule for a Client-to-Site VPN.

Monitoring VPN Connections

On the **VPN > Client-to-Site** page, you can monitor VPN connections. Clients authenticated via client certificate use a name in the following format: --.



The page lists all available Client-to-Site VPN tunnels. In the **Tunnel** column, the color of the square indicates the status of the VPN:

- **Blue** – The client is currently connected.
- **Green** – The VPN tunnel is available but currently not in use.
- **Grey** – The VPN tunnel is currently disabled. To enable the tunnel, right-click it and select **Enable Tunnel**.

For more information about the **VPN > Client-to-Site** page, see VPN Tab.

Troubleshooting

To troubleshoot VPN connections, see the `/yourVirtualServer/VPN/VPN`. `/yourVirtualServer/VPN/ike` and `BOX/Control/AuthService` log files. For more information, see LOGS Tab.

Figures

1. Client2SiteIPsecVPN.png
2. PSK01.png
3. PSK03.png
4. PSK04.png
5. PSK05.png
6. PSK06.png
7. PSK07.png
8. C2S_00.png
9. C2S_01.png
10. X509_04.png