

# OpenVPN Client Configuration on Tektelic Gateways

## Introduction [↗](#)

**i** This guide is intended for advanced users only. It assumes the gateway is running the default Tektelic factory configuration.

OpenVPN is a popular open-source virtual private network (VPN) solution. The OpenVPN client binary is available on all Tektelic LoRaWAN gateways. However, due to the nature of open-source software, Tektelic is **not responsible for maintaining this package**. This guide provides the essential steps to configure the OpenVPN client on a Tektelic gateway.

## Install OpenVPN [↗](#)

Starting from BSP (Board Support Package) version 7.1.X, OpenVPN should be installed by default.

To verify the installation

```
1 sudo opkg list-installed | grep openvpn
```

We recommend always using the latest BSP version.

## Configure OpenVPN [↗](#)

1. Get an OpenVPN configuration file (For simplicity, in this guide, I will call it `example.ovpn`) and possibly a credential file (For simplicity, in this guide, I will call it `vpn.secret`) from your network operator or service provider.
  - a. If you receive a username and password instead of a credential file, see Appendix 1.
2. Use SSH to log into your gateway.
3. Make a directory

```
1 sudo mkdir -p /etc/openvpn
```

4. Transfer the OpenVPN configuration file and credential file to the gateway's `/etc/openvpn` directory using a tool like **WinSCP** or **FileZilla**.
5. Start OpenVPN service

```
1 sudo /etc/init.d/openvpn start
```

6. If it worked, you should see **tun0** in `sudo ifconfig`

```
1 root@kona-micro-000000:~# sudo ifconfig
2 ...
3 tun0      Link encap:UNSPEC  HWaddr 00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00
4          inet addr:192.168.227.203  P-t-P:192.168.227.203  Mask:255.255.255.0
5          inet6 addr: fe80::68be:e1df:1cc:8288/64 Scope:Link
6          UP POINTOPOINT RUNNING NOARP MULTICAST MTU:1500 Metric:1
7          RX packets:3 errors:0 dropped:0 overruns:0 frame:0
8          TX packets:11 errors:0 dropped:0 overruns:0 carrier:0
9          collisions:0 txqueuelen:500
10         RX bytes:120 (120.0 B)  TX bytes:2622 (2.5 KiB)
```

7. OpenVPN outputs log to `/var/log/syslog`

```
1 sudo tail -f /var/log/syslog
```

8. OpenVPN will start automatically on next power cycle.

## Appendix 1: If you received username and password instead of a credential file [↗](#)

### OpenVPN configuration file [↗](#)

The OpenVPN configuration file can include a directive for credentials, for example:

```
1 ...
2 auth-user-pass /etc/openvpn/vpn.secret
3 ...
```

**If this line does not exist in your OpenVPN configuration file, add it manually.**

### Credential file [↗](#)

The credential file (e.g., `/etc/openvpn/vpn.secret`) should follow this format:

```
1 myusername
2 mypassword
```

For best security practise, only root user can read and write this file

```
1 sudo chown root:root vpn.secret
2 sudo chmod 600 vpn.secret
```

**If the credential file does not exist, create it using the format shown above.**

### Tips [↗](#)

Please use the `vi` text editor directly on the gateway.