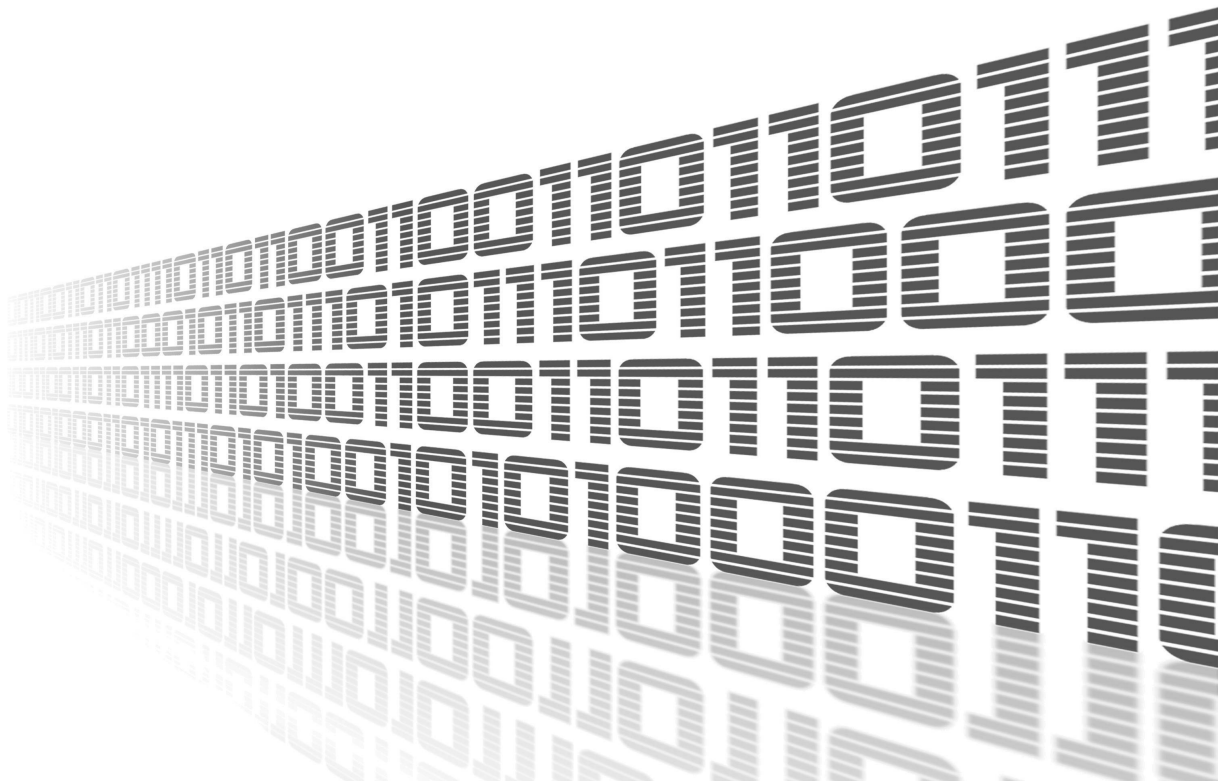




User Module

OpenVPN Custom Config

APPLICATION NOTE



AVANTECH

Used symbols



Danger – Information regarding user safety or potential damage to the router.



Attention – Problems that can arise in specific situations.



Information, notice – Useful tips or information of special interest.



Example – example of function, command or script.



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1. Description of the module



This user module is not installed on *Advantech* routers by default. See the *Configuration Manual* (references on page 4) for the description how to upload an user module to the router.



This user module is only compatible with *Advantech* routers of v2 and v3 platforms.

OpenVPN Custom Config user module can be used to configure up to four another OpenVPN tunnels on the router. This module has no classic configuration menu like the router's OpenVPN configuration page has. Configuration of one OpenVPN tunnel is declared in one field supporting the format used in *.ovpn configuration file. Advantage of this solution is that an existing OpenVPN configuration can be easily applied to the router. The downside is, that there is no control for the configuration entered. You can then easily get into the situation when the tunnel is not established or not working as expected with limited possibility of issue debugging.



OpenVPN features and parameters stated in configuration manual (references on page 4) are only declared to be supported by this module.

2. Web interface

Once the installation of the module is complete, the module's GUI can be invoked by clicking the module name on the *User modules* page of router's web interface.

Left part of this GUI contains menu with *Status* section, followed by *Configuration* section which contains the configuration pages for all of four OpenVPN tunnels. *Customization* section contains only the *Return* item, which switches back from the module's web page to the router's web configuration pages. The main menu of module's GUI is shown on figure 1.



Status
OpenVPN Status
OpenVPN Log
Configuration
Tunnel 1
Tunnel 2
Tunnel 3
Tunnel 4
Customization
Return

Figure 1: Main menu

3. Module usage

3.1 Configuration page

Configuration section of the module's GUI contains configuration pages for all of four OpenVPN tunnels, from *Tunnel 1* to *Tunnel 4*. Default state of configuration page for Tunnel 1 is on figure 1.

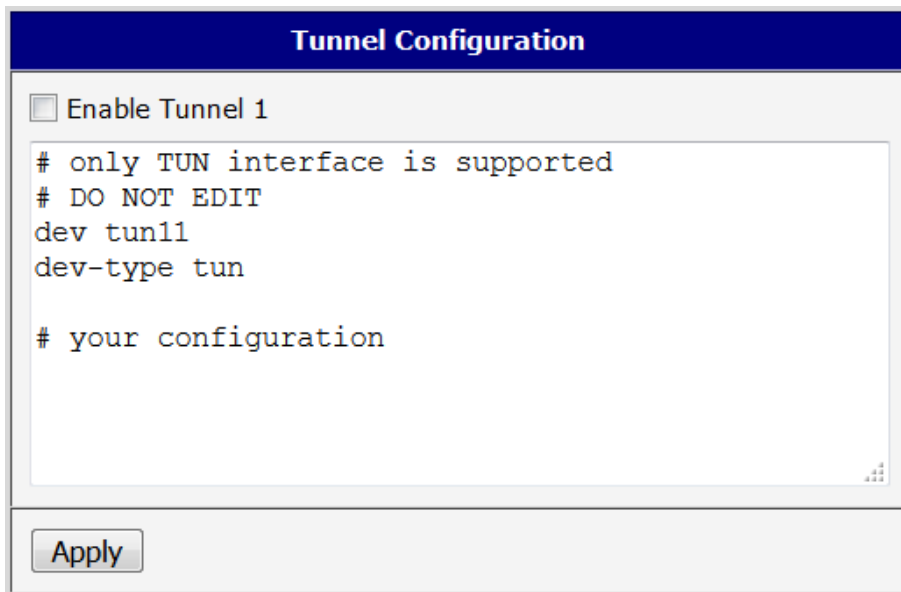
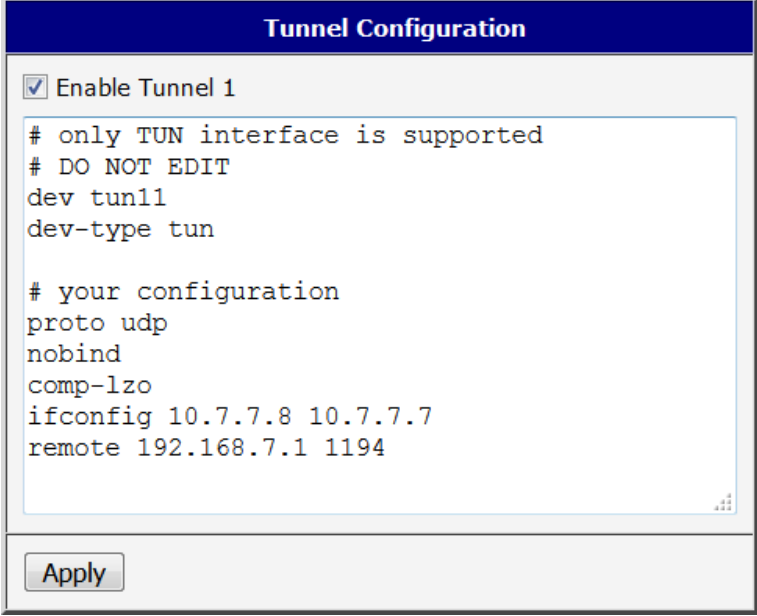


Figure 1: Configuration page - default state for Tunnel 1

As you can see, the configuration field begins with four lines which should not be edited. There are tunnel type and interface name declared on these lines. The interface name for *Tunnel 1* is *tun11* increasing to *tun14* for *Tunnel 4*.

Bellow these lines follows section four your configuration where you can put your configuration of the tunnel. Please note, that only OpenVPN features stated in configuration manual (references on page 4) of the router are declared to be supported by this module. Other settings may not work as expected.

An example of tunnel configuration is shown on figure 2. To save changes made in configuration click on *Apply* button. To apply the configuration and to create appropriate OpenVPN tunnel, check *Enable* box at the top and click on *Apply* button.



Tunnel Configuration

Enable Tunnel 1

```
# only TUN interface is supported
# DO NOT EDIT
dev tun11
dev-type tun

# your configuration
proto udp
nobind
comp-lzo
ifconfig 10.7.7.8 10.7.7.7
remote 192.168.7.1 1194
```

Apply

Figure 2: Configuration page - example

3.2 Status page

OpenVPN Status page lists status of all four OpenVPN interfaces. If the tunnel is initialised, the interface name and its status is displayed. If the tunnel is not enabled, the *Disabled* keyword is mentioned for the tunnel. An example of status page is shown on figure 3.

Overview	
Tunnel 1 :	
tun11	Link encap:UNSPEC HWaddr 00-00-00-00-00-00-00-00-00-00-00-00 inet addr:10.7.7.8 P-t-P:10.7.7.7 Mask:255.255.255.255 UP POINTOPOINT RUNNING NOARP MULTICAST MTU:1500 Metric:1 RX packets:0 errors:0 dropped:0 overruns:0 frame:0 TX packets:0 errors:0 dropped:0 overruns:0 carrier:0 collisions:0 txqueuelen:100 RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)
OpenVPN STATISTICS	
Updated,Wed Mar 28 07:57:20 2018	
TUN/TAP read bytes,0	
TUN/TAP write bytes,0	
TCP/UDP read bytes,0	
TCP/UDP write bytes,0	
Auth read bytes,0	
pre-compress bytes,0	
post-compress bytes,0	
pre-decompress bytes,0	
post-decompress bytes,0	
END	
Tunnel 2 : Disabled	
Tunnel 3 : Disabled	
Tunnel 4 : Disabled	

Figure 3: Status page

3.3 Log page

OpenVPN Log page lists detailed log messages of all four OpenVPN interfaces configured in this user module and also for all four standard OpenVPN interfaces configured on router's web GUI. These information may be helpful for debugging, especially for issues with initialization of the interface caused by an incorrect configuration. An example of log page is shown on figure 4.

```

OpenVPN Log
2018-03-28 07:18:18 openvpn[1024]: OpenVPN 2.3.18 [SSL (OpenSSL)] [LZO] [EPOLL] [MH] [IPv6]
2018-03-28 07:18:18 openvpn[1024]: library versions: OpenSSL 1.0.2n 7 Dec 2017, LZO 2.09
2018-03-28 07:18:18 openvpn[1024]: ***** WARNING *****: All encryption and authentication
2018-03-28 07:18:18 openvpn[1024]: TUN/TAP device tun11 opened
2018-03-28 07:18:18 openvpn[1024]: /sbin/ifconfig tun11 10.7.7.8 pointopoint 10.7.7.7 mtu 1500
2018-03-28 07:18:18 openvpn[1024]: UDPv4 link local: [undef]
2018-03-28 07:18:18 openvpn[1024]: UDPv4 link remote: [AF_INET]192.168.7.1:1194
2018-03-28 07:18:28 openvpn[1024]: write UDPv4: Network is unreachable (code=101)
    
```

Figure 4: Log page

4. Related Documents

- [1] Advantech Czech: **v2 Routers Configuration Manual** (MAN-0021-EN)
- [2] Advantech Czech: **SmartFlex Configuration Manual** (MAN-0023-EN)
- [3] Advantech Czech: **SmartMotion Configuration Manual** (MAN-0024-EN)
- [4] Advantech Czech: **SmartStart Configuration Manual** (MAN-0022-EN)
- [5] Advantech Czech: **ICR-3200 Configuration Manual** (MAN-0042-EN)



Product related documents can be obtained on *Engineering Portal* at www.ep.advantech-bb.cz address.