

Sub Station Router

History.....	1
V 0.3.0 10.sep.2023.....	1
V 0.2.2 V 0.2.1 09.sep.2023.....	1
V 0.2.0 06.sep.2023.....	1
Intro.....	2
Goal.....	2
Hardware.....	2
Software.....	2
Basic Setup.....	2
LuCi.....	2
Wireguard.....	3
Add Software.....	3
Reboot Device.....	3
Create script from Template:.....	3
Post Processing.....	4
Setup differences per device.....	5
Ongoing.....	5
Show Routes on Windows Client.....	5
Questions.....	5
Options.....	5
Xthink.....	5
Subnet split.....	5
Links.....	6
main.....	6
full config generator.....	6
qrcode generation from config file.....	6
other.....	6
very other.....	6

History

V 0.3.0 10.sep.2023

SubNet Domain Name

V 0.2.2 V 0.2.1 09.sep.2023

Added Try with separate SubNet 4 VPN Tunnel
Separate Tunnel must be.

V 0.2.0 06.sep.2023

First Success Tunnel with Router access and ssh

Intro

Goal

Create a OpenWRT Router as Sub Station.

The Router is a WLAN Client and contains a WireGuard Server.

On the LAN-Switch-Network-Outputs can be a SubProject; all connected Devices are accessible through the tunnel.

Devices connected at router-lan go into the Internet normally.

Clients puts a config File into Wireguard Client Software and activate the Tunnel; the they must access the Devices by understanding theis IP-Numbers.

Important: NOT MORE Complex actions on client side ! (Road Warriors)

Hardware

TP-Link TL-WDR4300 Ver. 1.7

TP-Link TL-WDR3600 Ver. 1.5

Software

OpenWRT 22.03.5

Basic Setup

LuCi

System->System:

Hostname: WDR3600 WDR4300

Timezone:Europe/Berlin

System->Administration

Change Password (Without no ssh) (b...k)

Network->Wireless:

Delete all SSID Masters

Add 5Ghz Client

Advanced Setting:DE

Network->Interfaces

->lan

Change Ipv4 Address

Network -> DHCP and DNS

General Settings -> LocalDomain

Give Names e.g.: station36; station43

MAGIC: Devices can be accessed by e.g.: pcname.station36

Save & Apply (Requires re-connect)

ipconfig /renew

Wireguard

Add Software

Before Running scripts the Wireguard Software must be installed

System->Software

->Filter: wireguard / Update Lists

Install: luci-app-wireguard

Automatic add installed:

wireguard-tools

kmod-wireguard

luci-i18n-wireguard-en

luci-proto-wireguard

Install: qrencode

Automatic add installed:

libqrencode

Reboot Device

Create script from Template:

<https://openwrt.org/docs/guide-user/services/vpn/wireguard/automated>

Change Defines in Head of script (separate for each device)

```
export interface="192.168.37"
export interface="192.168.42" # VPN SubNet
export DDNS="abcd1234abcd1234.myfritz.net"
export peer_IP="51"
export WG_${LAN}_server_port="36996"
export WG_${LAN}_server_port="43996"
export user_1="jisoo"
export user_2="jennie"
export user_3="rose"
export user_4="lisa"
export user_1="karina"
export user_2="giselle"
export user_3="winter"
```

```
export user_4="ningning"
```

Copy Script into root account

```
scp auto_wg_XX_username-id.sh root@192.168.43.1:~
```

ssh into router

```
ssh root@192.168.43.1
```

Execute in router

```
chmod +x auto_wg_XX_username-id.sh
```

```
./auto_wg_XX_username-id.sh
```

after script run

Read-Back Client scripts

```
scp -r root@192.168.XX.1:/etc/wireguard/** readbackXX/
```

```
pause ***** XXXXXXXXXXXX *****
```

Post Processing

Modify the Peer config files after extraction

```
[Interface]
```

```
Address = X.X.X.X/24 # get Subnet 255.255.255.0 # necessary ????
```

```
DNS = 192.168.36.1 # change from VPN to LAN Subnet
```

```
[Peer]
```

```
# everything goes through the tunnel
```

```
AllowedIPs = 0.0.0.0/0, ::/0
```

```
# behind the tunnel are VPN and LAN SubNets
```

```
AllowedIPs = 192.168.36.0/24, 192.168.37.0/24
```

```
# ??? is this true ????
```

```
Outside Router Setup
```

Wireguard Port forwarding (Weiterleitung)

Setup differences per device

Device	Hostname	Lan Subnet domain name	Port Wireguard	Clients	VPN SubNet
WDR3600	WDR3600	192.168.36.1/24 station36	36996	Jisoo Jennie Rose Lisa	192.168.37.1/24
WDR4300	WDR4300	192.168.43.1/24 station43	43996	Karina Giselle Winter Ningning	192.168.42.1/24
Fritz 7490			58989	IU	

Ongoing

Show Routes on Windows Client

Route print

Questions

(Fritz Box mapped Tunnel Endpoints at same Sub-Net)

<https://forum.openwrt.org/t/wireguard-connects-but-lan-not-reachable/146641>

Options

All Subnets can be PING'ed

All Devices behind the tunnel can be accessed by name instead of IP Number

Clients connected by tunnel can connect each other.

IP numbers at Router WAN port are accessible / not accessible.

(Adjustable by Wireguard setup!)

Xthink

Subnet split

0-15 Internal Fix

16-63 xternal fix

64-127 dhcp

128-191 VPN Tunnel ends

192-254 options

Links

main

<https://openwrt.org/docs/guide-user/services/vpn/start>

<https://openwrt.org/docs/guide-user/services/vpn/wireguard/start>

<https://openwrt.org/docs/guide-user/services/vpn/wireguard/automated>

full config generator

<https://www.wireguardconfig.com/>

qrcode generation from config file

<https://www.wireguardconfig.com/qrcode>

other

<https://github.com/nyr>

<https://wiki.securepoint.de/UTM/VPN/%C3%9Cbersicht>

<https://www.youtube.com/watch?v=FvP7dOmy9w&t=181s>

<https://www.apfeltalk.de/community/threads/os-x-ssh-remote-loesungen-unter-osx-dazu-vnc-kvm.35714/>

<https://github.com/pirate/wireguard-docs>

<https://openwrt.org/docs/guide-user/services/vpn/openvpn/client-luci>

very other

<https://sekurak.pl/more-information-about-tp-link-backdoor/>

<https://sekurak.pl/tp-link-httpftp-backdoor/>