Manual

Digta

Digta W/LAN-Adapter
VPN Configuration

From firmware V2.3 onwards

Release: March 2021

Digta W/LAN Adapter implements a VPN via the open source OpenVPN 2.4 daemon. So in general, system administrators can use any documented OpenVPN options for OVPN configuration files that can be found at:

https://openvpn.net/community-resources/reference-manual-for-openvpn-2-4/

Of course there are some exceptions and limitations, described below as follows:

1 Preparing the OVPN configuration file

First of all you need to prepare an ***.ovpn** configuration file provided by your VPN server (possibly with some additional ***.pem** and ***.p12** files) or try to create it manually from scratch.

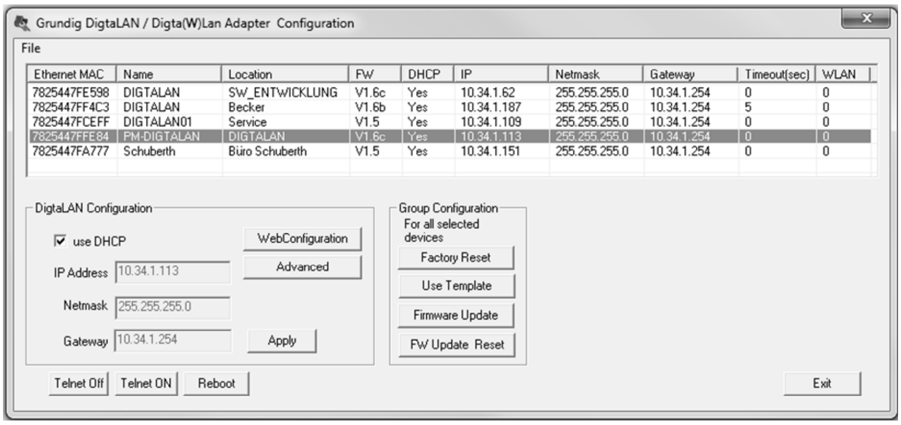
The second option is not easy: VPN settings are very different for different servers and therefore it is difficult to give a general recipe on how to create OVPN files manually. Please check the above reference manual and contact the system administrator of the target VPN server.

2 Setting up clock synchronization on the adapter

For a successful connection to the VPN server, you need to synchronize the adapter clock with the closest **NTP** server. If there is no such server in your work or home network, then you can use one of the servers from this site:

https://www.ntppool.org

Start the configuration tool "DigtaLANConfig.exe" and click on the "Advanced" button.



Grundig DigtaLAN / Digta(W)Lan Adapter Configuration

Ethernet MAC	Name	Location	FW	DHCP	IP	Netmask	Gateway	Timeout(sec)	WLAN
7825447FE598	DIGTALAN	SW_ENTWICKLUNG	V1.6c	Yes	10.34.1.62	255.255.255.0	10.34.1.254	0	0
7825447FF4C3	DIGTALAN	Becker	V1.6b	Yes	10.34.1.187	255.255.255.0	10.34.1.254	5	0
7825447FCEFF	DIGTALAN01	Service	V1.5	Yes	10.34.1.109	255.255.255.0	10.34.1.254	0	0
7825447FFE84	PM-DIGTALAN	DIGTALAN	V1.6c	Yes	10.34.1.113	255.255.255.0	10.34.1.254	0	0
7825447FA777	Schuberth	Büro Schuberth	V1.5	Yes	10.34.1.151	255.255.255.0	10.34.1.254	0	0

DigtaLAN Configuration

☑ use DHCP

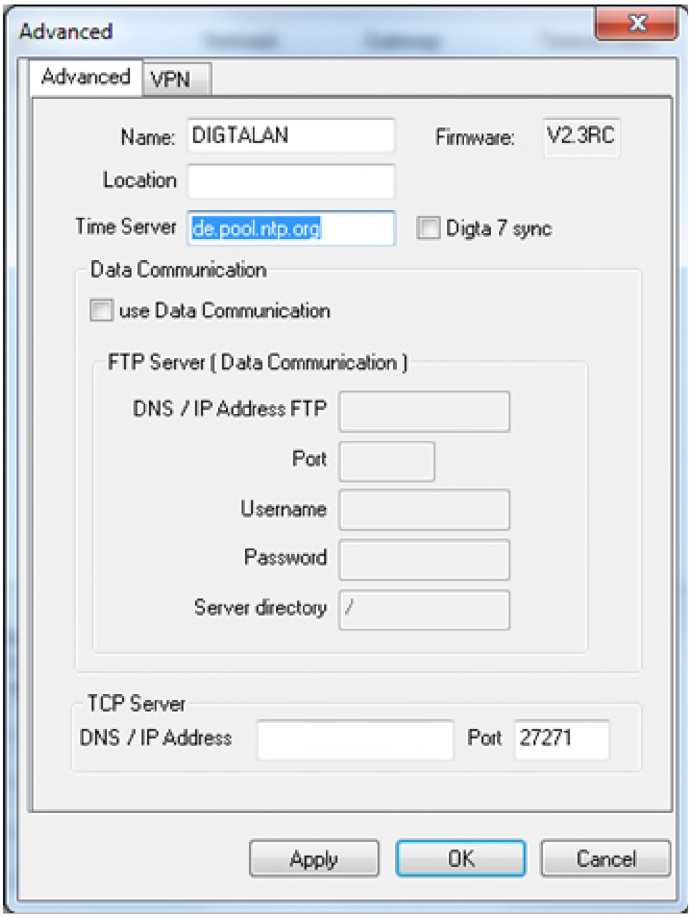
IP Address 10.34.1.113

Netmask 255.255.255.0

Gateway 10.34.1.254

Group Configuration

For all selected devices



Advanced

Advanced | VPN

Name: DIGTALAN

Firmware: V2.3RC

Location:

Time Server: de.pool.ntp.org

□ Digta 7 sync

Data Communication

□ use Data Communication

FTP Server (Data Communication)

DNS / IP Address FTP:

Port:

Username:

Password:

Server directory: /

TCP Server

DNS / IP Address:

Port: 27271

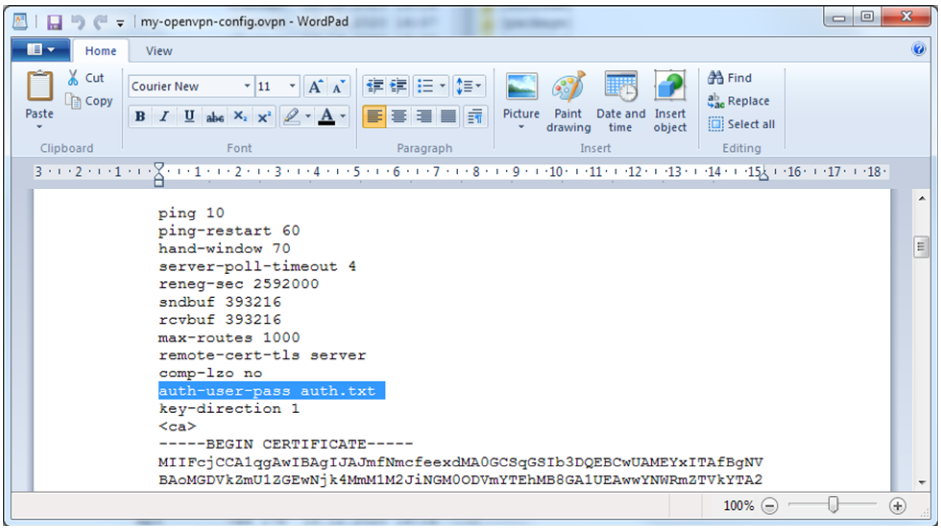
After pressing the “OK“ button on the “Advanced“ tab, please reboot the adapter to apply the new NTP server settings. You can verify the synchronized date/time in **UTC** format on the main page of the web-interface of the adapter (see “WebConfiguration“ button).

Please wait about 1-2 minutes after restart to complete the clock synchronization.

3 OVPN configuration file with attached files

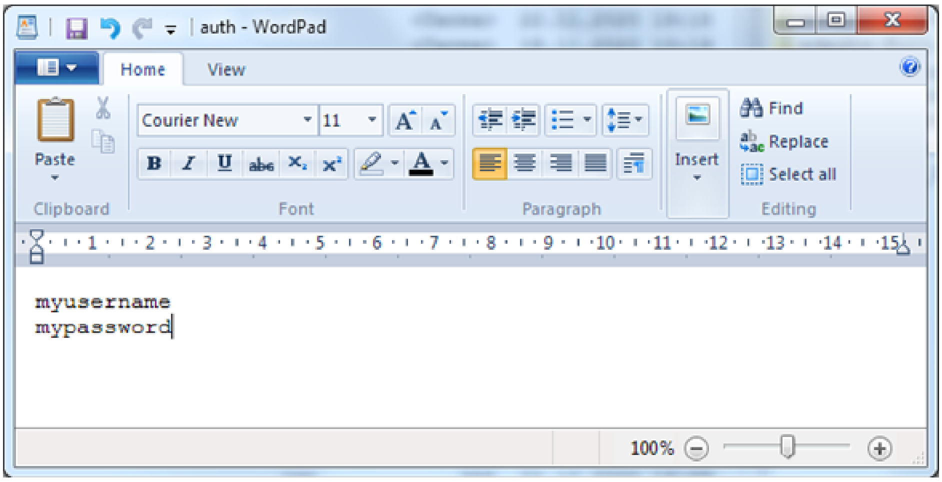
If you have an “all in one“ OVPN file with attached certificates & keys, then running the setup will be the easiest. You can open ***.ovpn** files in any text editor that supports Unix style EOLs (LF) and check for **<ca>**, **<cert>** and **<key>** tags and some **Base64** encoded texts in between. If tags exist then you can just upload the file “as is” to the adapter.

NB: If your server requires user/password authentication, you need to add the “**auth-user-pass”** option to the OVPN configuration file (please do not use absolute or relative paths for this option and save the file name only, without any directories).



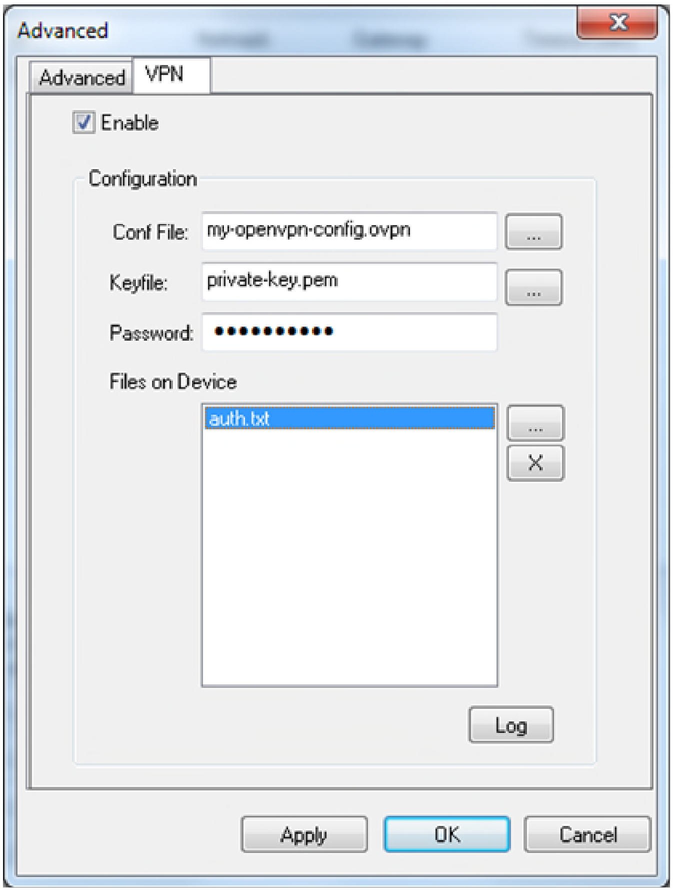
```
ping 10
ping-restart 60
hand-window 70
server-poll-timeout 4
reneg-sec 2592000
sndbuf 393216
rcvbuf 393216
max-routes 1000
remote-cert-tls server
comp-lzo no
auth-user-pass auth.txt
key-direction 1
<ca>
-----BEGIN CERTIFICATE-----
MIIFcjCCA1qgAwIBAgIJAJmfNmcfeexdMA0GCSqGSIb3DQEBCwUAMEYxITAfBgNV
BAoMGDVkZmU1ZGEwNjk4MmM1M2JiNGM0ODVmYTEhMB8GA1UEAwwYNWRmZTVkYTA2
```

Please save your username and password to a separate **auth.txt** file: on the first line, enter the username and on the second line enter the password.



```
myusername
mypassword
```

Now you are ready to enable the VPN and upload the ***.ovpn** file (and optionally **auth.txt**) to the adapter.



☑ Enable

Conf File: my-openvpn-config.ovpn

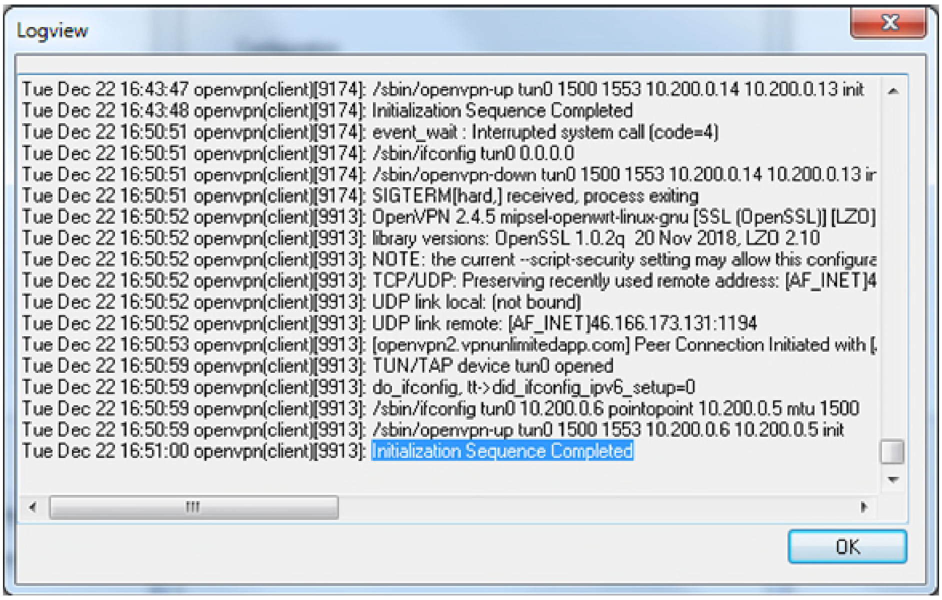
Keyfile: private-key.pem

Password: ••••••••••

Files on Device

auth.txt

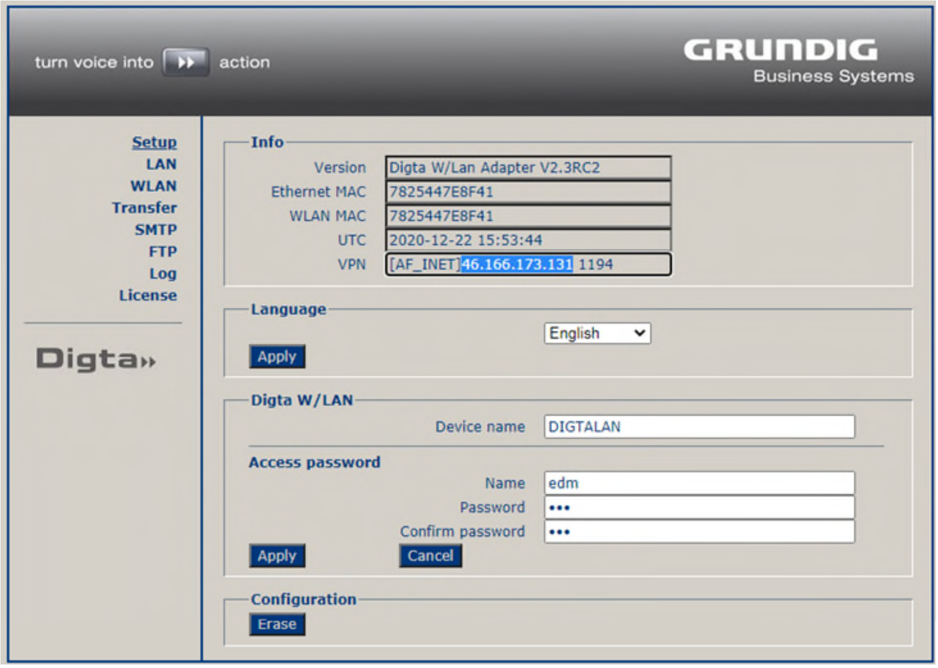
Please ignore the “Keyfile“ & “Password“ fields and leave them blank for attached OVPN configuration. After pressing the “Apply“ button, please check the OpenVPN log (please see “**Log**“ button). Please then wait, as it may take several minutes to connect to the VPN server and establish a VPN tunnel. If the VPN is successful, you will see the following message at the end of the “**Logview**” window (Please reopen this window to refresh the log).



```
Tue Dec 22 16:43:47 openvpn(client)[9174]: /sbin/openvpn-up tun0 1500 1553 10.200.0.14 10.200.0.13 init
Tue Dec 22 16:43:48 openvpn(client)[9174]: Initialization Sequence Completed
Tue Dec 22 16:50:51 openvpn(client)[9174]: event_wait : Interrupted system call (code=4)
Tue Dec 22 16:50:51 openvpn(client)[9174]: /sbin/ifconfig tun0 0.0.0.0
Tue Dec 22 16:50:51 openvpn(client)[9174]: /sbin/openvpn-down tun0 1500 1553 10.200.0.14 10.200.0.13 ir
Tue Dec 22 16:50:51 openvpn(client)[9174]: SIGTERM[hard,] received, process exiting
Tue Dec 22 16:50:52 openvpn(client)[9913]: OpenVPN 2.4.5 mipsel-openwrt-linux-gnu [SSL (OpenSSL)] [LZO]
Tue Dec 22 16:50:52 openvpn(client)[9913]: library versions: OpenSSL 1.0.2q  20 Nov 2018, LZO 2.10
Tue Dec 22 16:50:52 openvpn(client)[9913]: NOTE: the current --script-security setting may allow this configura
Tue Dec 22 16:50:52 openvpn(client)[9913]: TCP/UDP: Preserving recently used remote address: [AF_INET]4
Tue Dec 22 16:50:52 openvpn(client)[9913]: UDP link local: (not bound)
Tue Dec 22 16:50:52 openvpn(client)[9913]: UDP link remote: [AF_INET]46.166.173.131:1194
Tue Dec 22 16:50:53 openvpn(client)[9913]: [openvpn2.vpnunlimitedapp.com] Peer Connection Initiated with [
Tue Dec 22 16:50:59 openvpn(client)[9913]: TUN/TAP device tun0 opened
Tue Dec 22 16:50:59 openvpn(client)[9913]: do_ifconfig, tt->did_ifconfig_ipv6_setup=0
Tue Dec 22 16:50:59 openvpn(client)[9913]: /sbin/ifconfig tun0 10.200.0.6 pointopoint 10.200.0.5 mtu 1500
Tue Dec 22 16:50:59 openvpn(client)[9913]: /sbin/openvpn-up tun0 1500 1553 10.200.0.6 10.200.0.5 init
Tue Dec 22 16:51:00 openvpn(client)[9913]: Initialization Sequence Completed
```

NB: VPN settings are retained during an adapter reboot and the OpenVPN daemon will establish a VPN tunnel again in a few minutes. To stop the use of the VPN tunnel for all connections, you need to explicitly disable this in the VPN checkbox “Enable”.

You can also check for new external VPN IP addresses on the main page of the web interface of the adapter (Use the “WebConfiguration“ button):



Info

Version: Digta W/Lan Adapter V2.3RC2
Ethernet MAC: 7825447E8F41
WLAN MAC: 7825447E8F41
UTC: 2020-12-22 15:53:44
VPN: [AF_INET]46.166.173.131 1194

Language: English

Digta W/LAN

Device name: DIGTALAN

Access password

Name: edm
Password: •••
Confirm password: •••

Configuration

4 OVPN configuration file with external files

If you have certificates or keys as separate files, you need to reference them in the main OVPN configuration file (please add an option for each on a separate line) and upload all these files to the adapter.

```
ca my-ca-file-name.pem

cert my-cert-file-name.pem

extra-certs my-extra-certs-file-name.pem

dh my-dh-file-name.pem

key my-key-file-name.pem

pkcs12 my-pksc12-file-name.p12
```

Please do not use absolute or relative paths for these options and save the file name only, without any directories. All files must be in **PEM** format (except for pksc12). It is not necessary to use all options/files (usually only ca+cert+key or pkcs12 bundle). You can also use a mixed OVPN configuration when only part of the files are attached (like **<ca>** and **<cert>** tags) and another part is uploaded separately (like the **key** option). Please consult your system administrator of your VPN server about which files you really require.

You need to upload all the ***.pem** and ***.p12** files via “**Files on Device**“ in the list box.

Please also note the following:

There is one exception for the **key** file: If your private key file is password protected, then you need to upload it via the "**Keyfile**" field and also fill in the "**Password**" field. In this case you don't need to reference the key file in the main OVPN configuration file. Moreover a key file uploaded via the "Keyfile" field will always have higher priority than the key file referenced in the OVPN configuration file and uploaded via "Files on Device" in the list box.

To delete an uploaded file from the adapter, please remove it from "Files on Device" in the listbox and press the "Apply" or "OK" button. To delete a key file uploaded via the "Keyfile" field, please remove the file name from the field and press the "Apply" or "OK" button.

Do not upload any files with the extension *.conf via the "Files on Device" list box. This is because the OpenVPN daemon would try to parse these files and interpret any random words as VPN options. It is better to only ever upload files with the extensions *.ovpn, *.pem, *.p12 and *.txt

5 Default DNS for a VPN

While a VPN connection is established, the adapter will always try to use **DNS** servers that is pushed from the VPN server (but not from local network). If the VPN server does not provide any DNS servers, then the adapter will use **Google Public DNS.**

https://developers.google.com/speed/public-dns

At present, it is not posible to setup other default DNS servers during a VPN connection.

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