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OpenVPN with Two Factor Authentication (2FA)

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Using DUO 2fa with OpenVPN requires to install an additional plugin.

Upload tar archive to your router then unarchive required plugins and helper files

```
curl
```

```
http://dev.packages.vyos.net/tmp/openvpn-plugin-duo_2.4_amd64.deb -O  
sudo dpkg -i openvpn-plugin-duo_2.4_amd64.deb
```

Following documentation from DUO site, configure OpenVPN instance

<https://duo.com/docs/openvpn>

Get integration key, secret key, and API hostname from DUO control panel and add to VyOS the next commands for activating the plugin.

```
set interfaces openvpn vtunX openvpn-option '--plugin  
/usr/lib/openvpn/duo/duo_openvpn.so IKEY SKEY HOST'  
set interfaces openvpn vtunX openvpn-option 'reneg-sec 0'
```

Where: IKEY - integration key, SKEY - secret key, HOST - API hostname

Full OpenVPN configuration:

```
set interfaces openvpn vtun10 local-port '1194'  
set interfaces openvpn vtun10 mode 'server'  
set interfaces openvpn vtun10 openvpn-option '--plugin  
/usr/lib/openvpn/duo/duo_openvpn.so XXX YYY api-zzz.duosecurity.com'  
set interfaces openvpn vtun10 openvpn-option 'reneg-sec 0'  
set interfaces openvpn vtun10 persistent-tunnel  
set interfaces openvpn vtun10 protocol 'udp'  
set interfaces openvpn vtun10 server push-route '100.64.0.0/24'  
set interfaces openvpn vtun10 server subnet '10.23.1.0/24'  
set interfaces openvpn vtun10 tls ca-cert-file
```

```
'/config/auth/ovpn/ca.crt'  
set interfaces openvpn vtun10 tls cert-file  
'/config/auth/ovpn/central.crt'  
set interfaces openvpn vtun10 tls crl-file  
'/config/auth/ovpn/crl.pem'  
set interfaces openvpn vtun10 tls dh-file '/config/auth/ovpn/dh.pem'  
set interfaces openvpn vtun10 tls key-file  
'/config/auth/ovpn/central.key'
```

How to generate cryptographic materials described by the following link

<https://support.vyos.io/en/kb/articles/using-easy-rsa-to-generate-x-509-certificates-and-keys>

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