

Instruction on connecting to VPN for Linux. VPN Helper UG

Installing root certificates using a script

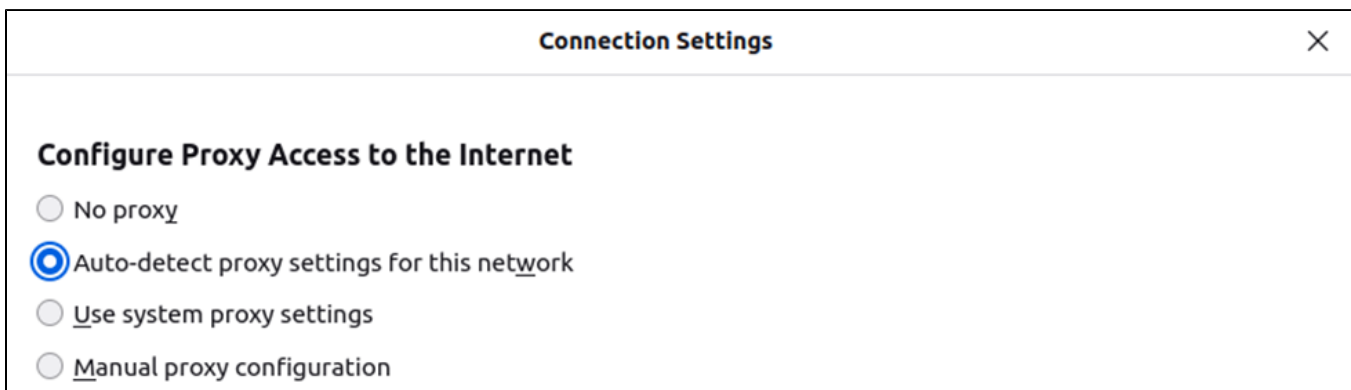
To install root certificates using a script, follow these steps:

1. Download the script from the [link](#).
2. In the terminal, navigate to the directory where the script was downloaded. Run the following command:

```
sudo sh ./ca-certs.sh
```

Installing root certificates in manual mode

To access the Internet in FireFox, navigate to **Settings** → **General** → **Network Settings** → **Connection Settings** and select **Auto-detect proxy settings for this network**:



To install root certificates, follow these steps:

1. Download the archive with the certificates:

```
wget https://vpnhelp.kaspersky.com/Applications/certificates.zip
```

2. Unzip the archive and copy the contents to the destination folder:

```
unzip certificates.zip -d certificates
```

3. Navigate to the folder with the certificates:

```
cd certificates
```

4. Change the certificate format to a compatible one:

```
for f in *.cer; do mv "$f" "${f%.cer}.crt"; done
```

5. Copy the resulting files to the system folder, set access rights to them and start the process of updating system certificates:

```
sudo cp * /usr/local/share/ca-certificates/  
sudo chmod 664 /usr/local/share/ca-certificates/*.*  
  
sudo update-ca-certificates
```

Installing and configuring tokens using a script

To install and set up eToken/ruToken using a script, follow these steps:

1. Depending on the OS version and token type, download the required version of the script:
 - [SafeNet for eToken Ubuntu 20.04](#)
 - [SafeNet for eToken Ubuntu 22.04](#)

- [Minidriver for ruToken \(Any OS version\)](#)
2. Insert the hardware token into the device.
 3. Unzip the downloaded archive.
 4. In the terminal, navigate to the unzipped directory.
 5. Depending on which version of the script was downloaded, run one of the following commands:

```
sudo sh ./SafeNet_20.04.sh
```

- For **SafeNet for eToken Ubuntu 22.04**:

```
sudo sh ./SafeNet_22.04_2.sh
```

- For **Minidriver for ruToken**:

```
sudo sh ./ruToken.sh
```

Installing and configuring tokens in manual mode

To enable tokens of any type to work in the system, run the following command:

```
sudo apt install gnutls-bin libengine-pkcs11-openssl opensc
```

Installing and configuring eToken

1. Depending on Ubuntu version, download the driver for the eToken:
 - [eToken driver for Ubuntu 20.04](#)
 - [eToken driver for Ubuntu 22.04](#)
2. Unzip the downloaded archive.
3. Depending on Ubuntu version, run one of the following commands:

- For **Ubuntu 20.04**:

```
sudo dpkg -i safenetauthenticationclient_10.8.28_amd64.deb
```

- For **Ubuntu 22.04**:

```
sudo dpkg -i safenetauthenticationclient_10.8.1050_amd64.deb
```

4. Run the following commands:

```
sudo mkdir -p /etc/pkcs11/modules/  
echo 'module: /usr/lib/libeTPkcs11.so' | sudo tee -a /etc/pkcs11/modules/eToken.module
```

5. To allow the **p11tool** utility to access the token module, specify the path to the token module:

```
echo 'load=/usr/lib/libeTPkcs11.so' | sudo tee -a /etc/gnutls/pkcs11.conf
```

6. If the **gnutls** folder and the **pkcs11.conf** file have not been created, create them manually:

```
sudo mkdir -p /etc/gnutls/  
sudo touch /etc/gnutls/pkcs11.conf
```

Installing and configuring ruToken

1. Download the latest version of the driver for ruToken from the [link](#).
2. In the terminal, navigate to the folder with the driver and run the following command:

```
sudo dpkg -i librtpkcs11ecp_{{ version }}_amd64.deb
```

3. Run the following commands:

```
sudo mkdir -p /etc/pkcs11/modules/  
echo 'module: /usr/lib/librtpkcs11ecp.so' | sudo tee -a /etc/pkcs11/modules/ruToken.module
```

4. To allow the **p11tool** utility to access the token module, specify the path to the token module by running the following command:

```
echo 'load=/usr/lib/librtpkcs11ecp.so' | sudo tee -a /etc/gnutls/pkcs11.conf
```

Configuring a VPN connection using a script

To configure a VPN connection using a script, follow these steps:

1. Download the VPN connection setup script from the [link](#).
2. Insert the hardware token into the device.
3. In the terminal, navigate to the directory where the script was downloaded. Run the following command:

```
sudo sh ./KLCiscoVPN.sh
```

Configuring a VPN connection in manual mode

To configure a VPN connection, follow these steps:

1. Set up the **OpenConnect** client:

```
sudo apt install network-manager-openconnect-gnome
```

2. Get your real UUID:

```
awk '/^UUID/ {print $1;}' /etc/fstab | awk '{print substr( $0,6 )}' | sed '2d'
```

3. Get a URL for a user certificate and a key:

```
pl11tool --list-tokens | grep "pkcs11" | grep -v "MultiToken" | grep -v "p11-kit" | grep -v "/usr/lib" |  
sed "s|.*: ||g"
```

Or

```
pl11tool --list-token-urls
```

Copy the string that contains the last and first name.

Example

```
pkcs11:model=eToken;manufacturer=SafeNet%2c%20Inc.;serial=11111111;token=token=<Employee name>%  
20<Employee Surname>'
```

4. Get a user certificate:

```
pl11tool --login --list-all <Result of the previous command from step 3> | grep "pkcs11" | grep  
"type=cert" | sed "s|.*: ||g" | grep -v "MultiToken" | sed "s|.*: ||g"
```

Or

```
pl11tool --login --list-all <Result of the previous command from step 3>
```

Example


```
pl11tool --login --list-all 'pkcs11:model=eToken;manufacturer=SafeNet%2c%20Inc.;serial=11111111;  
token=token=<Employee name>%20<Employee Surname>'
```

5. Get the Private Key of the token:

```
pl11tool --login --list-privkeys <Result of the previous command from step 3> | grep "pkcs11" | grep  
"type=private" | sed "s|.*: ||g" | grep -v "MultiToken" | sed "s|.*: ||g"
```

Or

```
plltool --login --list-privkeys <Result of the previous command from step 3>
```

 **Example**

```
plltool --login --list-privkeys 'pkcs11:model=eToken;manufacturer=SafeNet%2c%20Inc.;serial=111111111;  
token=token=<Employee name>%20<Employee Surname>'
```

6. Create the **KLCVPN.nmconnection** file and place it in `/etc/NetworkManager/system-connections/`:

```
sudo nano /etc/NetworkManager/system-connections/KLCVPN.nmconnection
```

7. Instead of the specified variables, specify your data in this file:

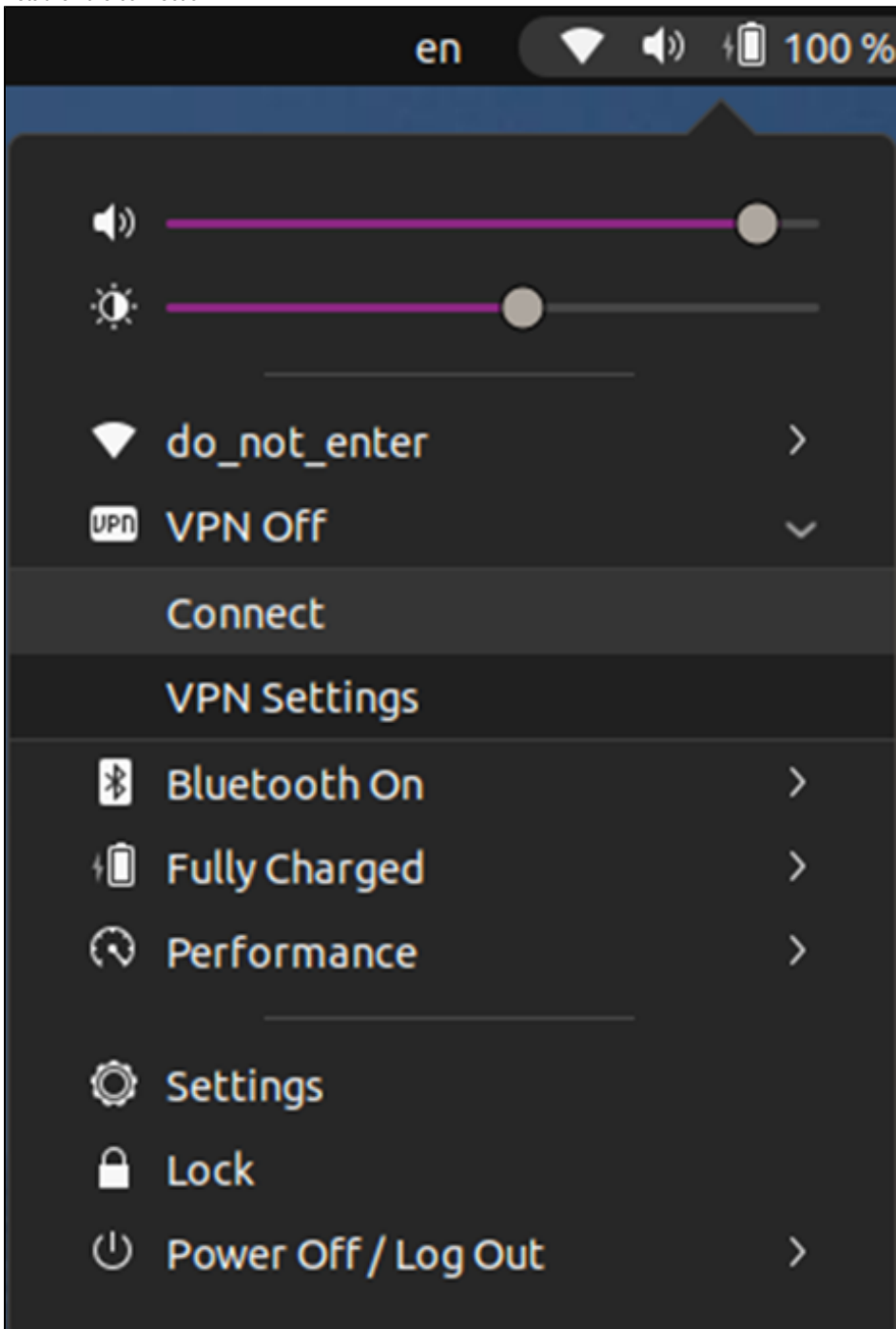
- a. **UID** - result of the command from step 2
- b. **KLRCA_PATH** - path to **Kaspersky Root CA G3.crt** (default path when installing using the current instructions: `/usr/local/share/certificates/Kaspersky_Root_CA_G3.crt`)
- c. **TOKEN_USR_CERT** - result of the command from step 4
- d. **TOKEN_PRIV_KEY** - result of the command from step 5

```
[connection]
id=KLCVPN
uuid=<UID>
type=vpn
permissions=

[vpn]
authtype=cert
autoconnect-flags=0
cacert=<KLRCA_PATH>
certsigns-flags=0
cookie-flags=2
enable_csd_trojan=no
gateway=cvpn.kaspersky.com
gateway-flags=2
gwcert-flags=2
lasthost-flags=0
pem_passphrase_fsids=no
usercert=<TOKEN_USR_CERT>
userkey=<TOKEN_PRIV_KEY>
xmlconfig-flags=0
service-type=org.freedesktop.NetworkManager.openconnect

[vpn-secrets]
lasthost=cvpn.kaspersky.com
```


11. Establish the connection:



12. In the window that opens, click **Connect**.

13. When connecting, enter the password for the token and select the **Save Passwords** checkbox.

 **Note**

For the first connection, the selection of VPN node will not be available, on subsequent connections you will be able to select the desired node yourself.

[OPTIONAL] To disable the **sudo** password request when connecting to the VPN from other accounts, follow these steps:

1. Use the **policykit** integrated tools:

```
echo ""
```

```
[Let all users modify system settings for network]

Identity=unix-user:*

Action=org.freedesktop.NetworkManager.settings.modify.system

ResultAny=no

ResultInactive=no

ResultActive=yes

""" | sudo tee /etc/polkit-1/localauthority/50-local.d/10-network-manager.pkla
```

2. Restart Network Manger:

```
sudo systemctl restart NetworkManager
```