

Instructions for Creating VPN connection in Ubuntu

Before setting up a VPN connection, in the user tree in the desired user's card, check the box **Allow remote access via VPN**. To do this, go to **Users -> User & Group**:

General Quota IP and MAC authorization

Username

Login

Found in a group

Operations

Additional settings

Deny access

Allow remote access via VPN

PPTP Protocol

Before creating a connection in Ubuntu, go to SafeUTM, **Users -> VPN connections**, and check the box **PPTP Connection**:

General settings

Network for VPN connections

192.168.0.0/16

PPTP connection

PPPoE connection

IKEv2/IPSec Connection

Domain

safeutm.com

SSTP Connection

Domain

Port

1443

L2TP/IPSec Connection

PSK

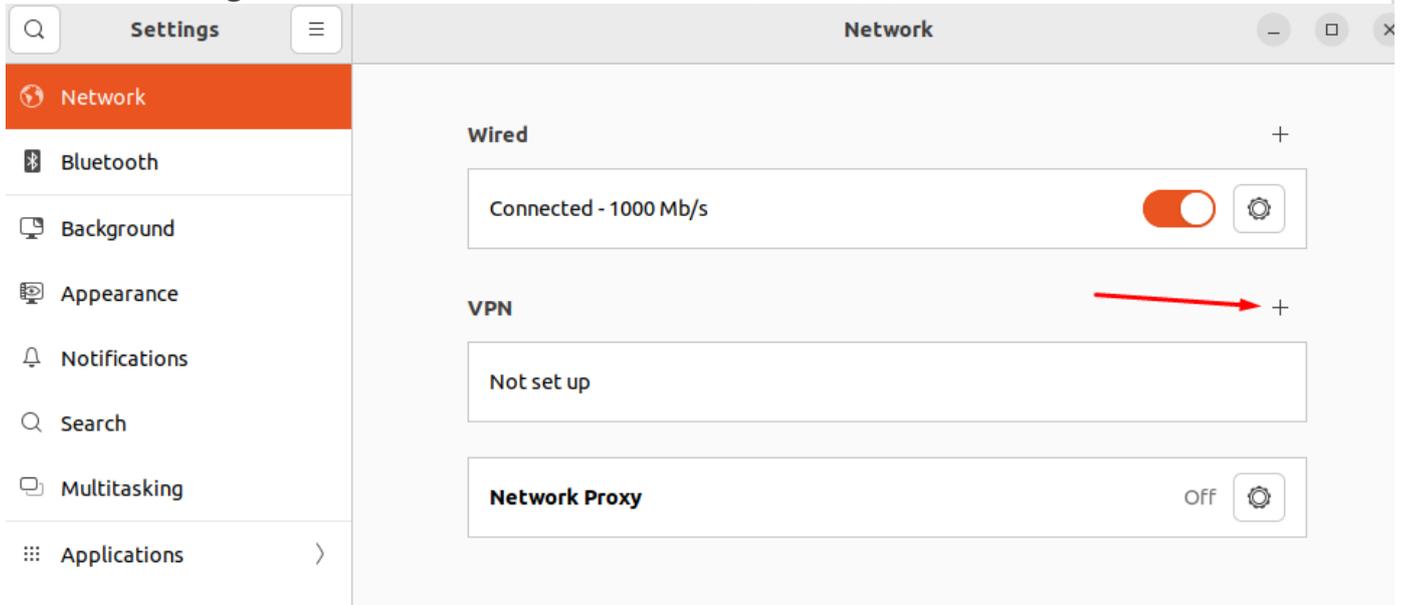
.....



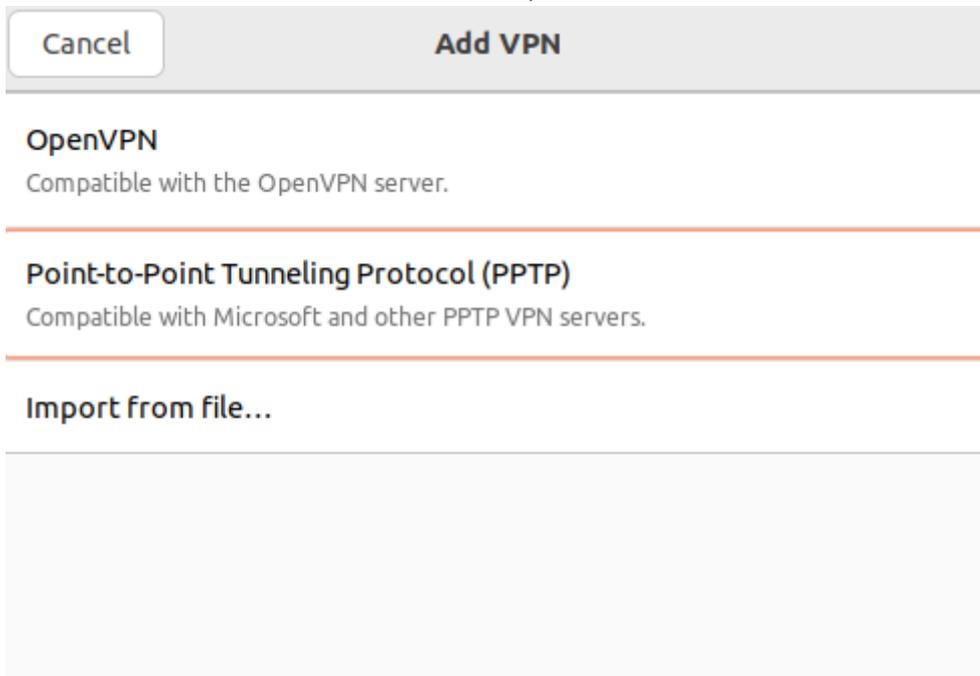
Save

Creating a connection in Ubuntu

1. Go to **Settings** -> **Networks** and in the **VPN** line, click **(+)**:



2. In the connection creation window, select **Point-to-Point Tunneling Protocol (PPTP)**:



3. In the **Identification** section fill in the following fields:

- **Name** – the connection name.
- **Gateway** – the domain name or IP address of the UTM interface.
- **Username** – the name of the user allowed to connect via VPN.
- **Password** – the user's password. In the right part of the field, select the storage option for the VPN connection password.

- **NT domain** - leave the field empty.

Cancel Add VPN Add

Identity IPv4 IPv6

Name

General

Gateway

Optional

User name

Password 

Show password

NT Domain

 Advanced...

We recommend that you click **Advanced** and check the following:

- **Allow the following authentication methods** - check the item
- **Use MPPE encryption** - in the Encryption line, select 128-bit (the most protected).
- **Use BSD compression for data** - using the BSD-compress algorithm.
- **Use Deflate compression for data** - using Deflate algorithm.

- **Use TCP Header Compression** – using Van Jacobson's TCP/IP header compression method.

Cancel **Advanced Properties** Apply

Authentication

Allow the following authentication methods:

- CHAP
- MSCHAP
- MSCHAPv2
- EAP

Security and Compression

- Use Point-to-Point encryption (MPPE)

Security: 128-bit (most secure) ▾

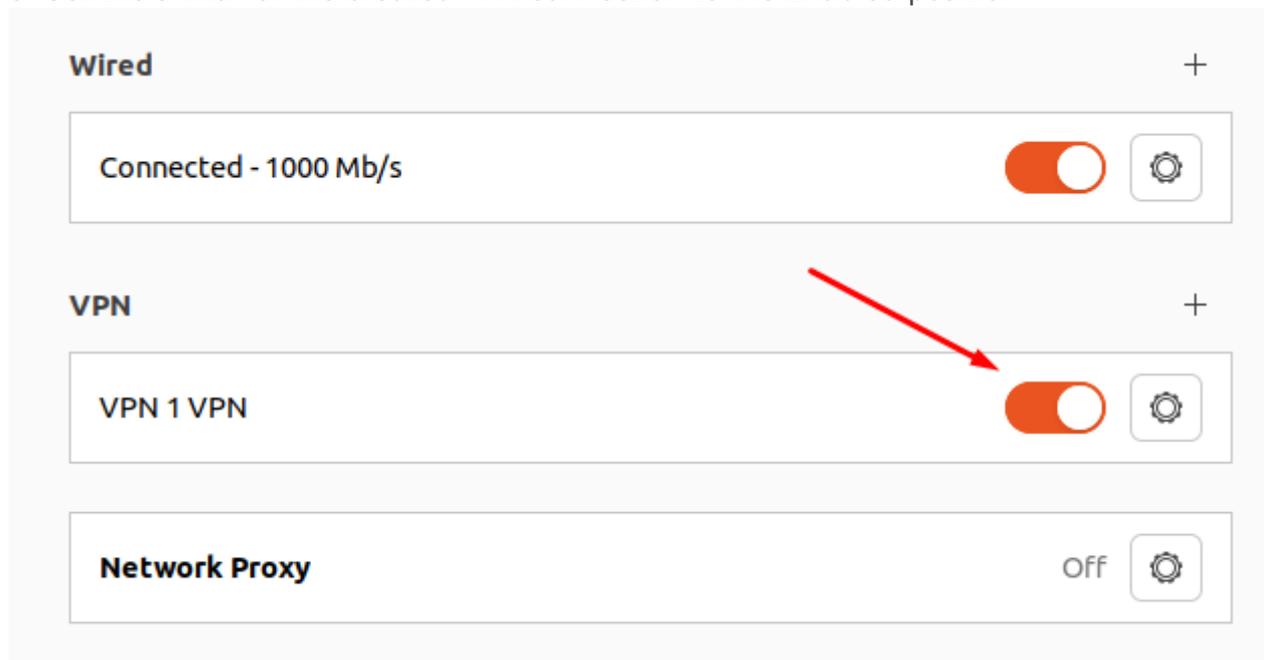
- Allow stateful encryption
- Allow BSD data compression
- Allow Deflate data compression
- Use TCP header compression

Misc

- Send PPP echo packets
- Use custom unit number: 0 - +

4. Click **OK** and **Add**.

5. Set the switch of the created VPN connection to the Enabled position:



IKEv2/IPsec Protocol

Before creating a connection in Ubuntu, configure SafeUTM:

1. Go to **Users -> VPN connections**.

2. Check the box **IKEv2/IPsec Connection** and fill in the **Domain** fields:

General

Fixed VPN IP addresses

General settings

Network for VPN connections

192.168.0.0/16

PPTP connection

PPPoE connection

IKEv2/IPSec Connection

Domain

example.com

SSTP Connection

Domain

Port

1443

L2TP/IPSec Connection

PSK

.....



Save

3. Download the root certificate from **Services -> TLS Certificates:**

TLS Certificates



Valid certificates



Status	Domain	Type	Publisher	Operations
	UTM-SAFEDNS (Root)	Automatically generated	UTM-SAFEDNS	
	safeutm-1.root.safe.local	Automatically generated	UTM-SAFEDNS	
	web-interface.local	Automatically generated	UTM-SAFEDNS	

Uploaded certificates

Upload user certificate

Upload root certificate



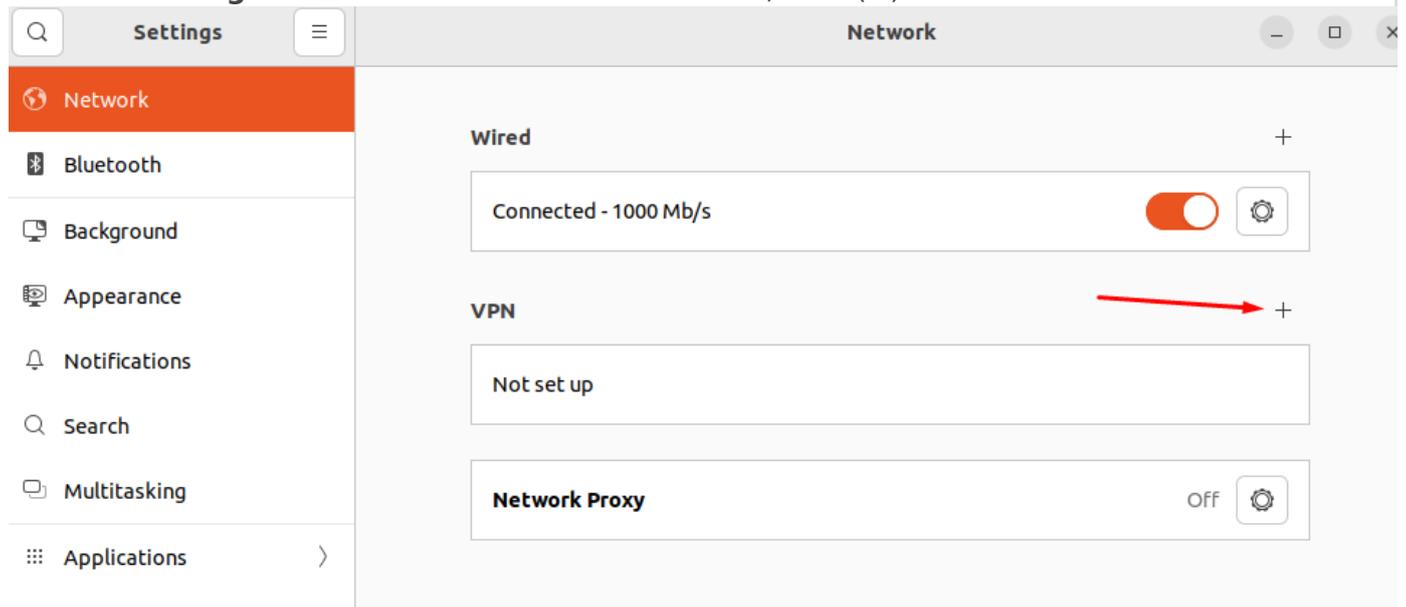
Common Name	Type	Publisher	Operations
UTM-SAFEDNS (Root)	Automatically generated	UTM-SAFEDNS	

The root certificate will be required to configure the connection of the user's workstation if the root certificate was not obtained via Let's Encrypt. If necessary, transfer the certificate file to the workstation.

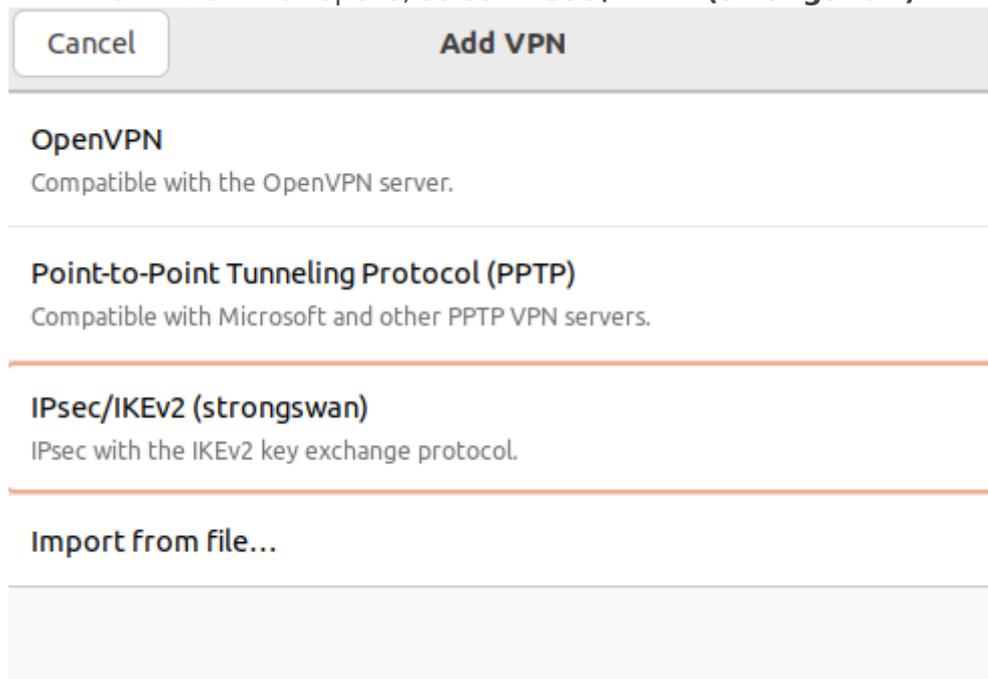
If a certificate issued by Let's Encrypt is used for a VPN connection, then installing a root certificate on the device is not required.

Creating a connection in Ubuntu

1. Open the terminal with the keyboard shortcut Ctrl+Alt+F1 and run the command: `sudo apt install -y network-manager-strongswan libcharon-extra-plugins libstrongswan-extra-plugins`
2. After the installation is complete, restart the computer: `sudo reboot`
3. Go to **Settings -> Networks** and in the **VPN** line, click (+):



4. In the window that opens, select **IPsec/IKEv2 (strongswan)**:



5. In **Identification** fill in the following fields:

- **Name** – connection name.
- **Address** – enter the domain specified in **Users -> Authorization -> VPN Connection -> IKEv2/IPsec Connection**.
- **Certificate** – select the previously saved root certificate (if it was not issued by Let's Encrypt).

- **Authentication** - we recommend choosing EAP.
- **Username** - the name of the user allowed to connect via VPN.
- **Password** - the user's password. In the right part of the field, select the storage option for the VPN connection password.

Check the box **Request an inner IP address** and click **Add**:

Cancel
Add VPN
Add

Identity
IPv4
IPv6

Name

Server

Address

Certificate (None)

Identity

Client

Authentication EAP (Username/Password) ▼

Certificate Certificate/private key ▼

Certificate file (None)

Private key (None)

Identity

Username

Password ●●●●●●●●

Show password

Options	<input checked="" type="checkbox"/> Request an inner IP address <input type="checkbox"/> Enforce UDP encapsulation
Algorithms	<input type="checkbox"/> Use IP compression Server port <input style="width: 80%; border: 1px solid #ccc;" type="text" value="(Defaults to UDP 500/4500)"/>

6. Set the switch of the created VPN connection to the Enabled position.

SSTP Protocol

Before creating a connection in Ubuntu, configure SafeUTM:

1. Go to **Users -> VPN connections**.
2. Check the box **SSTP Connection** and fill in **Domain** and **Port** fields:

General

Fixed VPN IP addresses

General settings

Network for VPN connections

192.168.0.0/16

PPTP connection

PPPoE connection

IKEv2/IPSec Connection

Domain

safeutm.com

SSTP Connection

Domain

Port

1443

L2TP/IPSec Connection

PSK

.....



Save

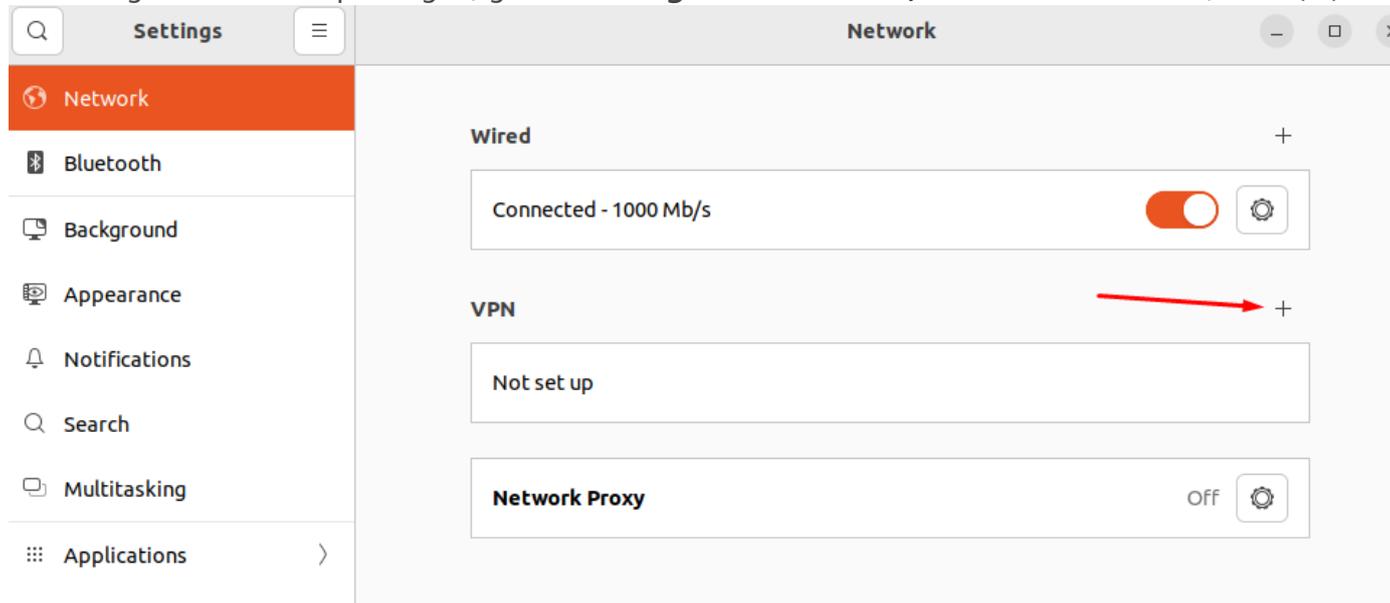
Creating a connection in Ubuntu

1. Open the terminal with the keyboard shortcut Ctrl+Alt+F1 and run two commands:

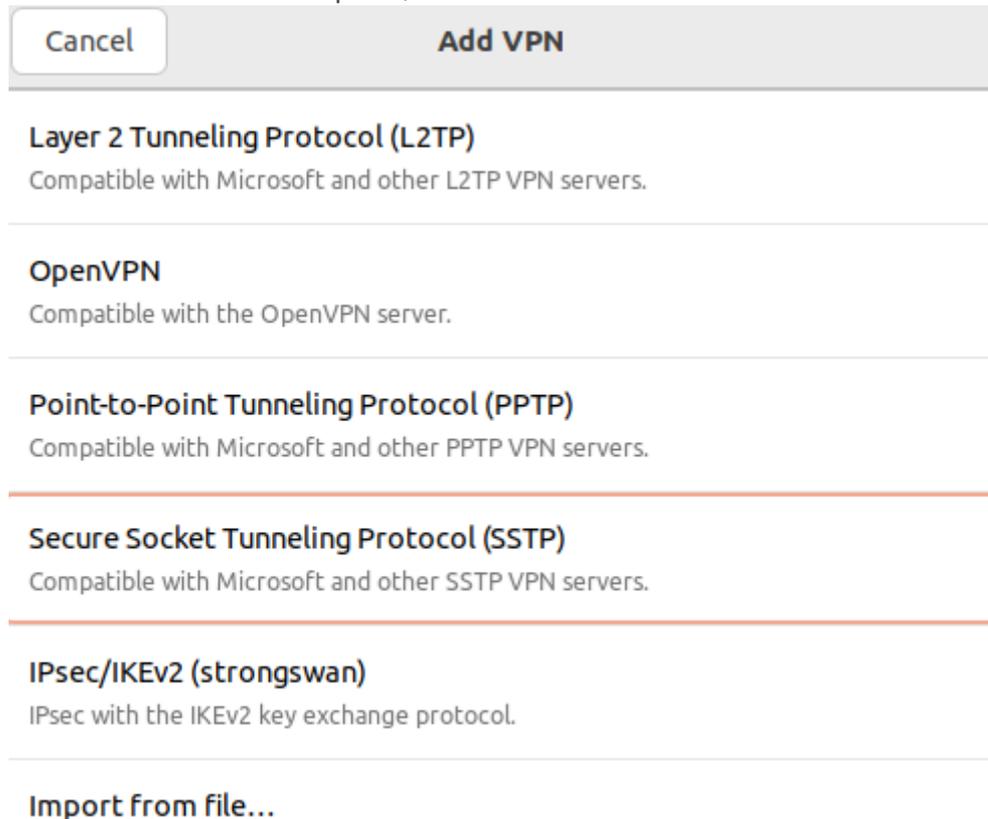
```
sudo apt-add-repository ppa:eivnaes/network-manager-sstp
sudo apt install -y network-manager-sstp sstp-client
```

2. After the installation is complete, restart the computer: `sudo reboot`

3. Having installed the packages, go to **Settings -> Networks**, and in the **VPN** line, click (+):



4. In the window that opens, select **Point-to-Point Tunneling Protocol (SSTP)**:



5. In **Identification** fill in the following fields:

- **Name** – connection name.

- **Gateway** – specify in the format *domain:[port selected on UTM]*.
- **Username** – the name of the user allowed to connect via VPN.
- **Password** – the user's password. In the right part of the field, select the storage option for the VPN connection password.
- **NT domain** – leave the field empty.

Cancel
Add VPN
Add

Identity

IPv4

IPv6

Name

General

Gateway:

Authentication

Type: ▼

Username:

Password: 👤

Show password

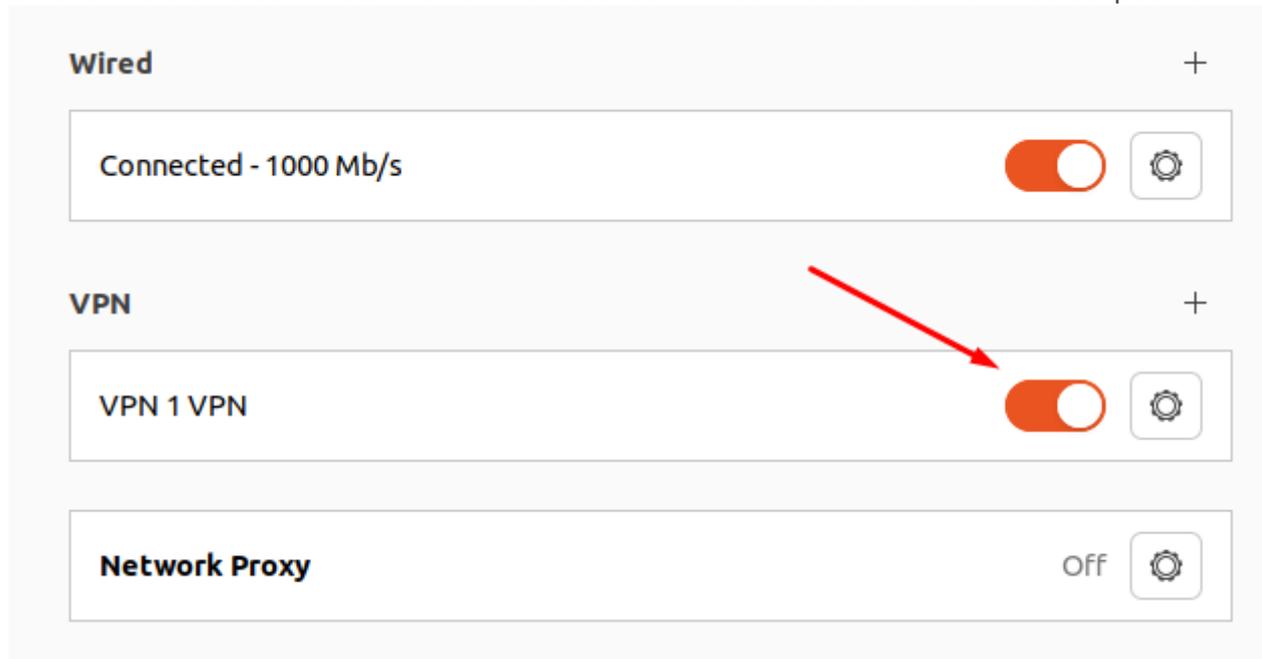
NT Domain:

⚙️ Advanced...

We recommend that you click **Advanced** and check the following:

- **Allow the following authentication methods** – check the item
- **Use MPPE encryption** – in the Encryption line, select 128-bit (the most protected).
- **Use BSD compression for data** – using the BSD-compress algorithm.
- **Use Deflate compression for data** – using Deflate algorithm.
- **Use TCP Header Compression** – using Van Jacobson's TCP/IP header compression method.

6. Click **Add** and set the switch of the created VPN connection to the Enabled position:



L2TP/IPsec Protocol

Important: L2TP IPsec clients behind the same NAT may experience connectivity issues if there is more than one. We recommend using IKEv2 IPsec instead of L2TP IPsec.

Before creating a connection, configure SafeUTM:

1. Go to **Users -> VPN connections**.
2. Check the box **L2TP/IPsec Connection** and copy the **PSK** key:

General settings

Network for VPN connections
192.168.0.0/16

PPTP connection

PPPoE connection

IKEv2/IPSec Connection

Domain
safeutm.com

SSTP Connection

Domain

Port
1443

L2TP/IPSec Connection

PSK
.....

[PowerShell - script for configuring connections](#)

Save

Creating a connection in Ubuntu

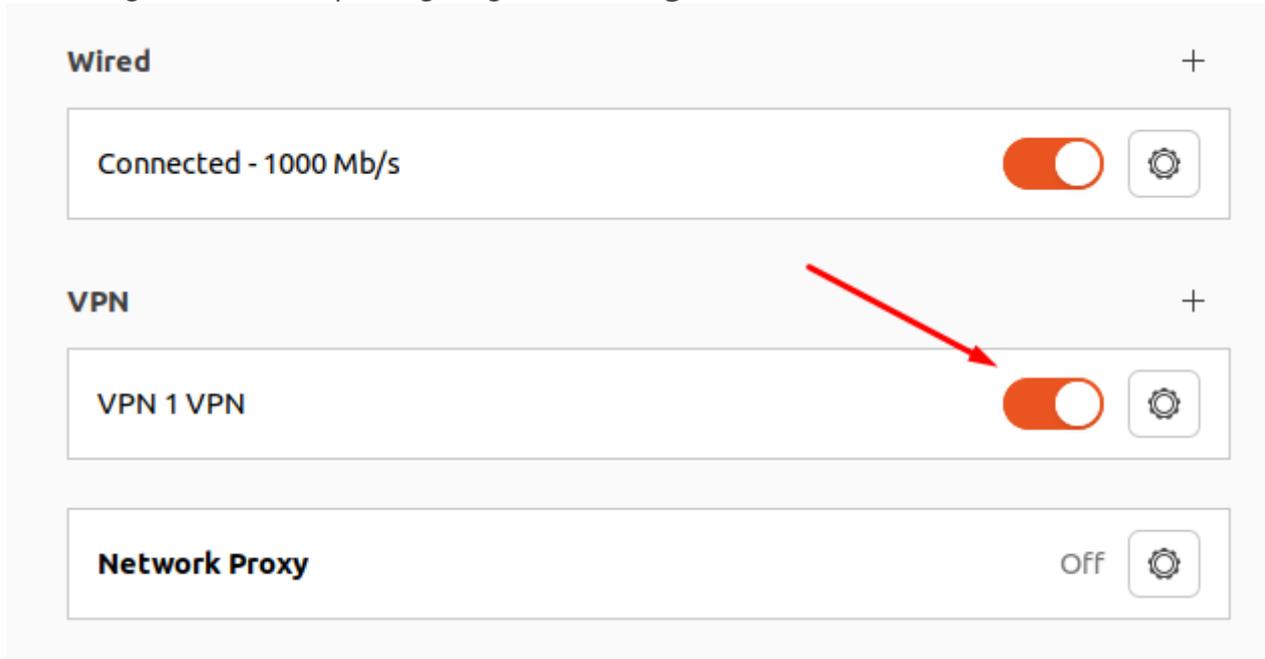
1. Connect the repository that contains the necessary packages to create an L2TP VPN connection, and then update the information about the repositories. To do this, run the following commands:

```
sudo add-apt-repository ppa:nm-l2tp/network-manager-l2tp
sudo apt update
```

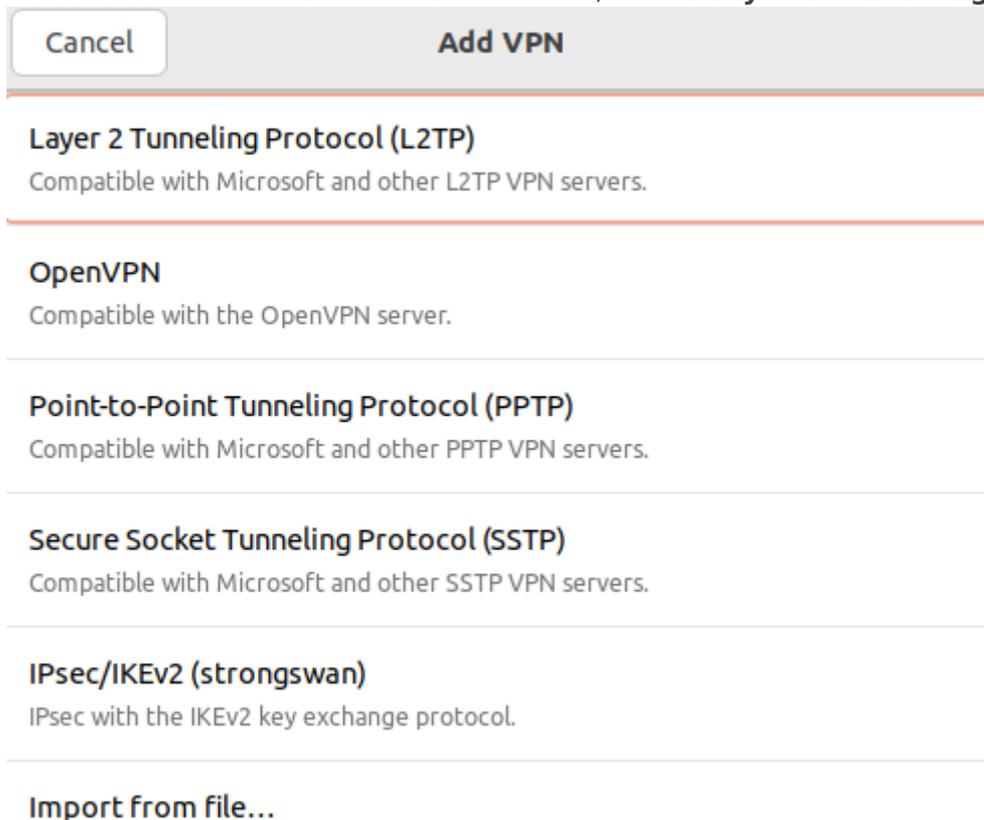
2. Install the add-on to the standard NetworkManager using two packages: `sudo apt install -y network-manager-l2tp network-manager-l2tp-gnome`

3. After the installation is complete, restart the computer: `sudo reboot`

4. Having installed the packages, go to **Settings -> Networks** and in the **VPN** line, click (+):



5. In the VPN connection creation window, select **Layer 2 Tunneling Protocol (L2TP)**:



6. In the tab **Identification** fill in the following fields:

- **Name** – connection name.
- **Gateway** – the domain name or IP address of the UTM interface.
- **Type** – user authentication by a password.
- **Username** – the name of the user allowed to connect via VPN.

- **Password** – the user's password. In the right part of the field, select the storage option for the VPN connection password.
- **NT domain** – leave the field empty.

Cancel
Add VPN
Add

Identity

IPv4

IPv6

Name

General

Gateway

User Authentication

Type

User name

Password

Show password

NT Domain

Use L2TP ephemeral source port

⚙️ IPsec Settings...
⚙️ PPP Settings...

7. Go to **IPsec settings** and enable **IPsec tunnel to L2TP host** to activate the ability to configure other parameters:

- **Type: Pre-shared key (PSK)** – public key authentication.
- **Pre-shared key** - the key that needs to be copied along the path **Users -> Authorization -> VPN connection** from the field **PSK**.

The section **Advanced** is optional.

IPsec Properties

Enable IPsec tunnel to L2TP host

Machine Authentication

Type: ▾

Pre-shared key: 

Show password

▾ **Advanced**

Remote ID:

Phase1 Algorithms:

Phase2 Algorithms:

Phase1 Lifetime: - (HH:MM)

Phase2 Lifetime: - (HH:MM)

Enforce UDP encapsulation

Use IP compression

Use IKEv2 key exchange

Disable PFS

Having finished configuring L2TP **IPsec Options**, click **OK**.

8. If necessary, go to **PPR settings** and configure **Authentication, Encryption and Compression**, and **Other**:

Cancel **PPP Properties** Apply

Authentication
Allow the following authentication methods:

- PAP
- CHAP
- MSCHAP
- MSCHAPv2
- EAP

Security and Compression

Use Point-to-Point encryption (MPPE)

Security: All Available (Default) ▾

- Allow stateful encryption
- Allow BSD data compression
- Allow Deflate data compression
- Use TCP header compression
- Use protocol field compression negotiation
- Use Address/Control compression

Misc

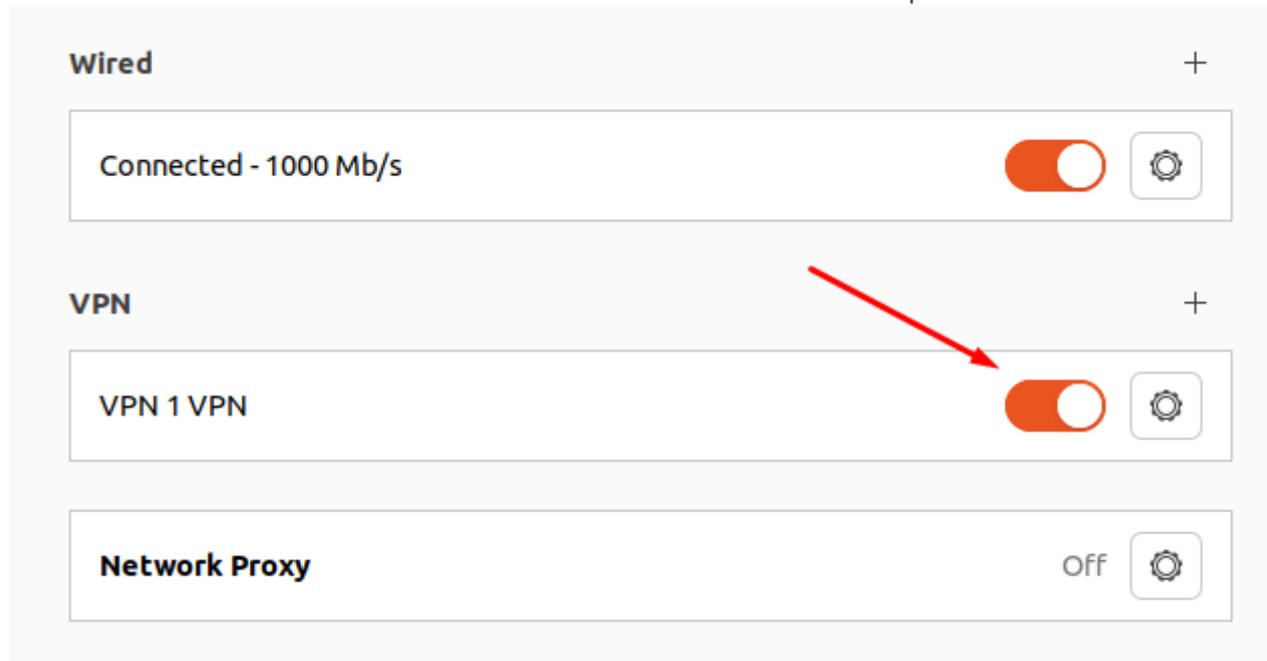
- Send PPP echo packets
- Multilink PPP MRRU: 1600 - +

MTU: 1400 - +

MRU: 1400 - +

After setting up **PPR parameters** click **OK** and **Apply**.

9. Set the switch of the created VPN connection to the Enabled position:



Revision #5

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