MULLVAD VPN

PRIVACY GUIDE

Mullvad VPN

The principles, in plain language

What a VPN does and why Mullvad is different.

01

What Mullvad is

Mullvad is a VPN: a service that protects your internet connection and hides where you are connecting from. It has been offered by a Swedish company since 2009 and stands out for one very simple idea: knowing as little as possible about its customers.

NO PERSONAL DATA

Opening an account takes no name, email or phone number.

NO LOGS

It does not keep which sites you visit, or when, or from where.

OPEN SOURCE

Its apps can be reviewed, and outside companies audit them.

02

Four ideas first

These four ideas are enough to understand everything else.

1. **The IP address.** It is the postal address of your connection. Every website you visit sees it, and with it knows roughly which city you are in and which operator you use.
2. **DNS.** It is the internet's phone book: it translates a name like "example.org" into the address of the computer that hosts it. By default, your operator answers those questions, so it knows which websites you want to visit.
3. **Encryption.** It turns a message into a jumble that can only be undone with a key. It protects the content, but it does not hide who you are talking to.
4. **The tunnel.** A VPN opens an encrypted tunnel between your device and one of its servers. Your traffic goes in one end and comes out onto the internet at the other, with the server's address and not yours.

03

The problem: someone always sees your traffic

Without a VPN, your operator sees which servers you connect to and websites see your IP. With a VPN, that gaze moves from the operator to the VPN provider. The VPN does not remove trust: it moves it.

> **The key question.** If the provider sees your traffic, what matters is what it does with it and what it can prove. Mullvad tries to make the answer "nothing" and to make sure you do not have to rely on its word alone.

04

The three privacy principles

Mullvad reduces what it knows about you on three fronts at once.

WHO YOU ARE

Anonymous account

A random number instead of a profile.

WHO PAYS

Payment with no trail

Cash by mail or Monero.

WHAT YOU DO

Servers with no memory

No disk, no logs.

Who you are: an anonymous account

When you create the account, Mullvad gives you a randomly generated 16-digit number. That number is your username and your password at once. There is no form and no email, so there is no database with your name. It is like using a left-luggage locker with a numbered ticket: whoever keeps the bags does not know who you are. The trade-off is that if you lose the number, there is no way to recover it.

Who pays: payments with no trail

An anonymous account is no use if the payment identifies you. That is why Mullvad accepts cash sent by mail and Monero, as well as card and other methods. The price is always the same, 5 euros a month, with no automatic renewals. You pay for the time you want and, when it runs out, the account expires.

What you do: servers with no memory

Mullvad's servers run on RAM only, with no hard disk. When they are switched off or restarted, everything inside is erased. It is like a whiteboard that cleans itself: even if someone took the server away, they would find no history. In April 2023 the Swedish police turned up at Mullvad's office with a search warrant and left without any customer data, because Mullvad said it had none.

> The three principles work together: Mullvad does not know who you are, does not know who pays and does not keep what you do. If someone asked it for data, it would have nothing to hand over.

05

A connection, step by step

1. You open the Mullvad app and enter your 16-digit account number.
2. Your device creates a key pair. The private key stays on the device and only the public one is shared.
3. The app opens an encrypted tunnel to a Mullvad server, using the WireGuard protocol.
4. Your traffic and your DNS queries go into the tunnel. Your operator only sees an encrypted connection to Mullvad.
5. The server sends your traffic out to the internet with its own IP address, shared with many other users.
6. Websites see the server's IP and not yours. If the tunnel drops, the "kill switch" cuts the connection so that nothing escapes.

06

Additional protections

Beyond the basic tunnel, Mullvad offers three defenses against more advanced threats.

FUTURE

Quantum tunnels

They add a layer that would withstand the quantum computers of the future.

TWO HOPS

Multihop

Traffic passes through two servers, so that neither knows at once who you are and what you do.

DISGUISE

DAITA

It mixes in fake traffic so that the shape of the traffic does not reveal which website you visit.

Why they matter

Quantum computers cannot yet break today's encryption, but someone could record your encrypted traffic today and open it in a few years. Tunnels resistant to that threat are already on by default in the desktop apps. Multihop and DAITA are options for anyone who needs a higher level of protection, at the cost of some speed.

07

How to get started

1. **Install the official app** from Mullvad's website and generate your account number.
2. **Store the number in a password manager.** It is your only access: if you lose it, there is no way to recover it.
3. **Choose how to pay according to what you are after.** For anonymity, cash or Monero; for convenience, card.
4. **Turn on the kill switch** and the quantum tunnels, and test the connection with the tool on Mullvad's website.

REFERENCE

Quick glossary

TERM	MEANING
VPN	An encrypted tunnel to a server that hides your IP
IP	The address of your internet connection
DNS	The phone book that translates website names into addresses
Encryption	Turning data into something unreadable without the key
Logs	Records of who did what and when
WireGuard	The modern tunnel protocol Mullvad uses
Kill switch	Automatic cut-off if the VPN fails
Multihop	Passing through two servers instead of one
DAITA	A defense that disguises the traffic pattern

> **Next step.** The complete guide, "Mullvad in depth", explains each of these pieces in more detail: payments, the 2023 raid, WireGuard, quantum tunnels and the limits of a VPN.

Sources: Mullvad's website and blog, CyberInsider, TechRadar and Ghacks.