How I Access My Talos Kubernetes Homelab from Anywhere Using Tailscale

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Introduction

I've been building my homelab over the past month and gradually turning it into a multi node Kubernetes cluster. Most of my experiments happened within my home network, but that isn't always the case. Eventually I ran into a real challenge: **How do I remotely access my Talos Kubernetes cluster when I'm not at home?**

I started researching the most reliable and secure way to access my homelab without exposing any ports to the internet, and in this blog I'll walk through exactly how I solved it.

Homelab Setup

My homelab setup looks like this:

- Proxmox Host (Dell Optiplex)Runs multiple VM's including, 2 Talos worker nodesActs as the Tailscale subnet router for my entire LAN
- Talos Control Plane node (Laptop)Bare-metal installation of TalosExposes the Kubernetes API inside my LAN only
- Client Laptop (Ubuntu):This is my workstation where I run kubectl and talosctl
- NetworkEverything on my homelab runs on 192.168.1.0/24

Tailscale: The Tool I Picked

What is Tailscale?Tailscale is a mesh VPN service built on WireGuard that creates a secure, private network (called a "tailnet") by connecting your devices directly to each other, regardless of their location.

Step by Step Setup

Install Tailscale on Proxmox (you can choose a different vm, for me this was more optimal)

```
curl -fsSL https://tailscale.com/install.sh | shtailscale up --advertise-
routes=192.168.1.0/24 — accept-dns=
```

After `tailscale up` you will see something like:

```
 authenticate, visit:https:login.tailscale.comaXXXXXXX:)  that URL)  it  your browser)
Log   sign up  Tailscale) Approve the machine  homelab ( whatever hostname your Proxmox
has)
```

- In the Tailscale admin panel, enable the `192.168.1.0/24` route for `homelab`.
- Install and connect Tailscale on the client laptop (your workstation)

```
curl -fsSL https://tailscale.com/install.sh | shsudo tailscale up --accept-routes
```

Again you will see a login URL:

```
To authenticate, visit:https://login.tailscale.com/a/YYYYYYY1) Open that   your
browser2) Log  with the same Tailscale account you used  homelab3) Approve the device
```

Test access to your cluster

From your workstation:

```
ping talosctl version kubectl  nodes
```

If all three work, you now have full remote access to your Talos Kubernetes cluster over Tailscale without exposing any ports.

Tailscale — Under the Hood

Tailscale creates a private network on top of the public internet. Each device runs a Tailscale client and gets a private Tailscale address in the `*100.x.x.x*` range. Traffic between devices is encrypted and sent over WireGuard tunnels.

In my setup there are two Tailscale devices:

- homelab (Proxmox host)
- pragalva (my laptop)

Overlay Network

When Tailscale starts, it creates a virtual interface called `tailscale0` on each device.
From the operating system point of view this is just another network interface.

- My laptop gets an address like `100.112.155.50`
- Proxmox gets an address like `100.106.203.89`

Any packet sent through `tailscale0` is encrypted and delivered to the other Tailscale node.

Subnet Routing

By default, devices can only reach each other's `100.x.x.x` addresses.
Subnet routing changes that.

On Proxmox I run:

```
tailscale up — advertise-routes=/ — accept-dns=
```

and in the Tailscale admin panel I enable that route.

This tells Tailscale:

"The homelab node can reach the whole `192.168.1.0/24` network.
If any device in the tailnet wants to talk to 192.168.1.x, send that traffic to homelab."

On my laptop I run:

```
sudo tailscale up
```

Tailscale then adds a route in the laptop's routing table:

```
/ via tailscale0
```

Now the laptop knows that packets for 192.168.1.x should go into Tailscale instead of the local wifi router.

Wrapping Up

This setup lets me reach my Talos Kubernetes cluster from anywhere without touching my router or exposing anything to the internet. Tailscale runs on my Proxmox host as a subnet router for `192.168.1.0/24`, and my laptop joins the same tailnet, so `kubectl` and `talosctl` work exactly as if I were at home.