

# tailscale

WireGuard-based Software-Defined Mesh Network for Remote Access

- Alternative to traditional VPNs
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# Installation + Config

Installing Tailscale is made simple with OPNsense, and only 2 items are required to successfully install the service:

1. Console Access to router (SSH)
2. Internet Connection

SSH into your OPNsense router console, enter "8" to select the shell option. Then run the command to download or update the ports tree:

```
-----
|      Hello, this is OPNsense 24.1      |      @@@@@@@@@@@@@@@@@@
|                                         |      @@@@      @@@@
| Website:      https://opnsense.org/    |      @@@\\      ///@@@
| Handbook:     https://docs.opnsense.org/ |      )))))))  (((((((
| Forums:       https://forum.opnsense.org/ |      @@@//      \\@@@
| Code:         https://github.com/opnsense |      @@@@      @@@@
| Twitter:      https://twitter.com/opnsense |      @@@@@@@@@@@@@@@@@@
|-----

*** router.austinhomelabs.com: OPNsense 24.1.5_3 ***

HomeWGVPN (wg0) -> v4: 10.10.10.1/24
LAN (igb0)      -> v4: 192.168.1.1/24
TAILSCALE (tailscale0) -> v4: 100.127.254.66/32
                                   v6: fd7a:115c:a1e0::5b01:fe42/48
WAN (igb1)      -> v4/DHCP4: [REDACTED]
homeLAB1 (igb3) -> v4: 192.168.2.1/24

HTTPS: SHA256 [REDACTED]

SSH:  SHA256 [REDACTED] (ECDSA)
SSH:  SHA256 [REDACTED] (ED25519)
SSH:  SHA256 [REDACTED] (RSA)

0) Logout                      7) Ping host
1) Assign interfaces            8) Shell
2) Set interface IP address    9) pfTop
3) Reset the root password     10) Firewall log
4) Reset to factory defaults   11) Reload all services
5) Power off system            12) Update from console
6) Reboot system               13) Restore a backup

Enter an option: 8

root@router:~ #
```

```
opnsense-code ports
```

Run it twice to make sure the most current and up-to-date version is downloaded. Then change directories and run the command to install Tailscale:

```
root@router:~ # opnsense-code ports
Already up to date.
Already up to date.
root@router:~ #
```

```
cd /usr/ports/security/tailscale
make install
```

Run the following commands to enable the tailscaled service and check for the version to ensure its installed:

```
service tailscaled enable
service tailscaled start
```

Check version with:

```
tailscale version
```

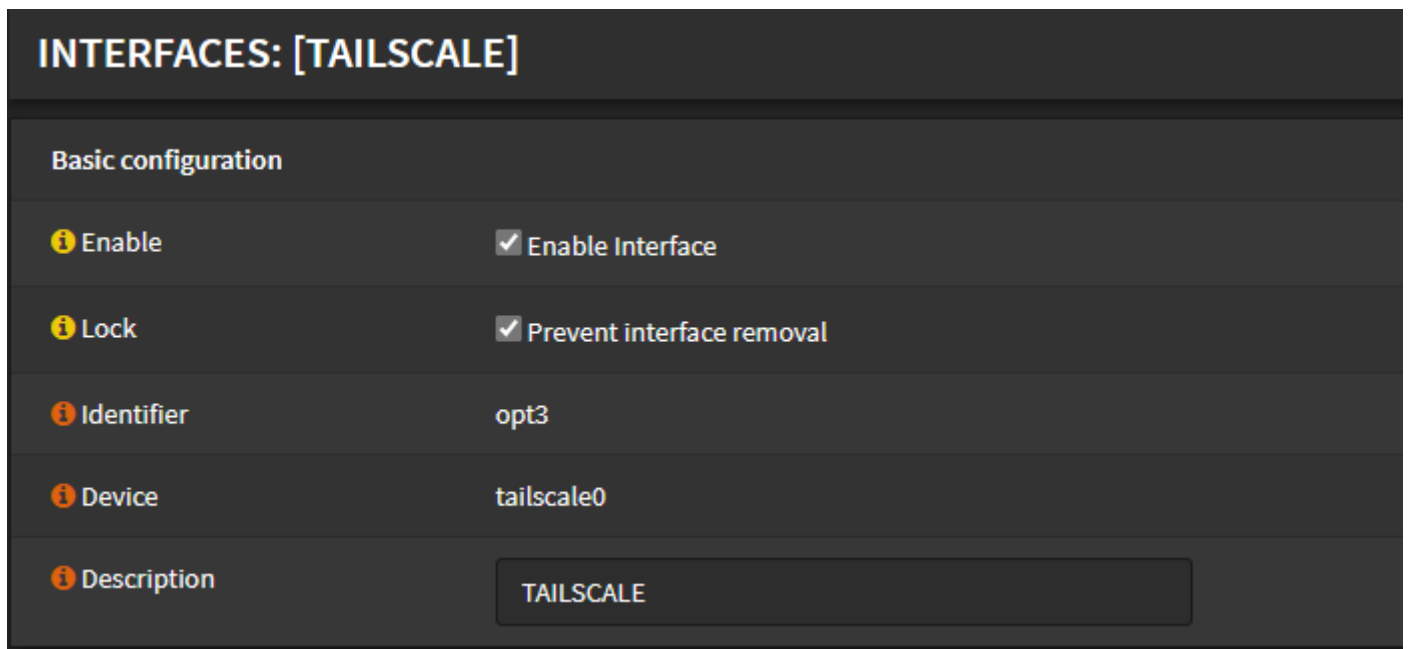
```
root@router:~ # tailscale version
1.62.1
  go version: go1.22.1
root@router:~ #
```

Run the command to add the OPNsense router as a node on your tailnet:

```
tailscale up
```

The output will provide you an authentication link to enter in your browser

Open your OPNsense router Web GUI to assign the interface and lock it to prevent removal:



The screenshot shows the 'INTERFACES: [TAILSCALE]' configuration page in the OPNsense web GUI. The page has a dark theme. Under the 'Basic configuration' section, there are several settings:

- Enable:** A checkbox labeled 'Enable Interface' is checked.
- Lock:** A checkbox labeled 'Prevent interface removal' is checked.
- Identifier:** The value 'opt3' is entered.
- Device:** The value 'tailscale0' is entered.
- Description:** A text box contains the value 'TAILSCALE'.

Your installation of tailscale is complete! Your next step should be to set up port mapping. See next page



# Port Mapping

With your tailscale installation complete, set up port mapping to allow access to certain devices. If you want to allow access to an entire subnet, you can do this through the admin console for tailscale in the "Edit route settings" section:

MACHINE	ADDRESSES ⓘ	VERSION	LAST SEEN	
<b>router</b> austin.logan.john@gmail.com <a href="#">Subnets</a> <a href="#">Exit Node</a>	100.127.254.66 ▾	1.62.1 FreeBSD 13.2-RELEASE-p11	● Connected	<div>Share... ⋮</div> <div><div>Edit machine name...</div><div>Edit machine IPv4...</div><div>Share...</div><div>Disable key expiry</div><div>View recent activity</div><div>Edit route settings...</div><div>Edit ACL tags...</div><div>Remove...</div></div>
<b>austin-ll5p</b> austin.logan.john@gmail.com	100.98.190.112 ▾	1.62.1 Windows 10.0.22631.3374	● 11:52 AM CDT	
<b>iphone-15-pro</b> austin.logan.john@gmail.com	100.108.243.27 ▾	1.62.0 iOS 17.4.1	● Apr 2, 12:26 AM	

Need inspiration for how to use Tailscale? [Learn more](#) ➤

I've enabled access to both my LAN and homeLAB subnet:

## Edit route settings of router



### Key expiry is enabled

If this machine's [key expires](#), your relayed traffic may be interrupted until you reauthenticate.

### Subnet routes

Connect to devices you can't install Tailscale on by advertising ip ranges as subnet routes. [Learn more ↗](#)

☒ 192.168.1.0/24

☒ 192.168.2.0/24

Unapprove all

Approve all

### Exit node

Allow your network to route internet traffic through this machine. [Learn more ↗](#)

☒ Use as exit node

Cancel

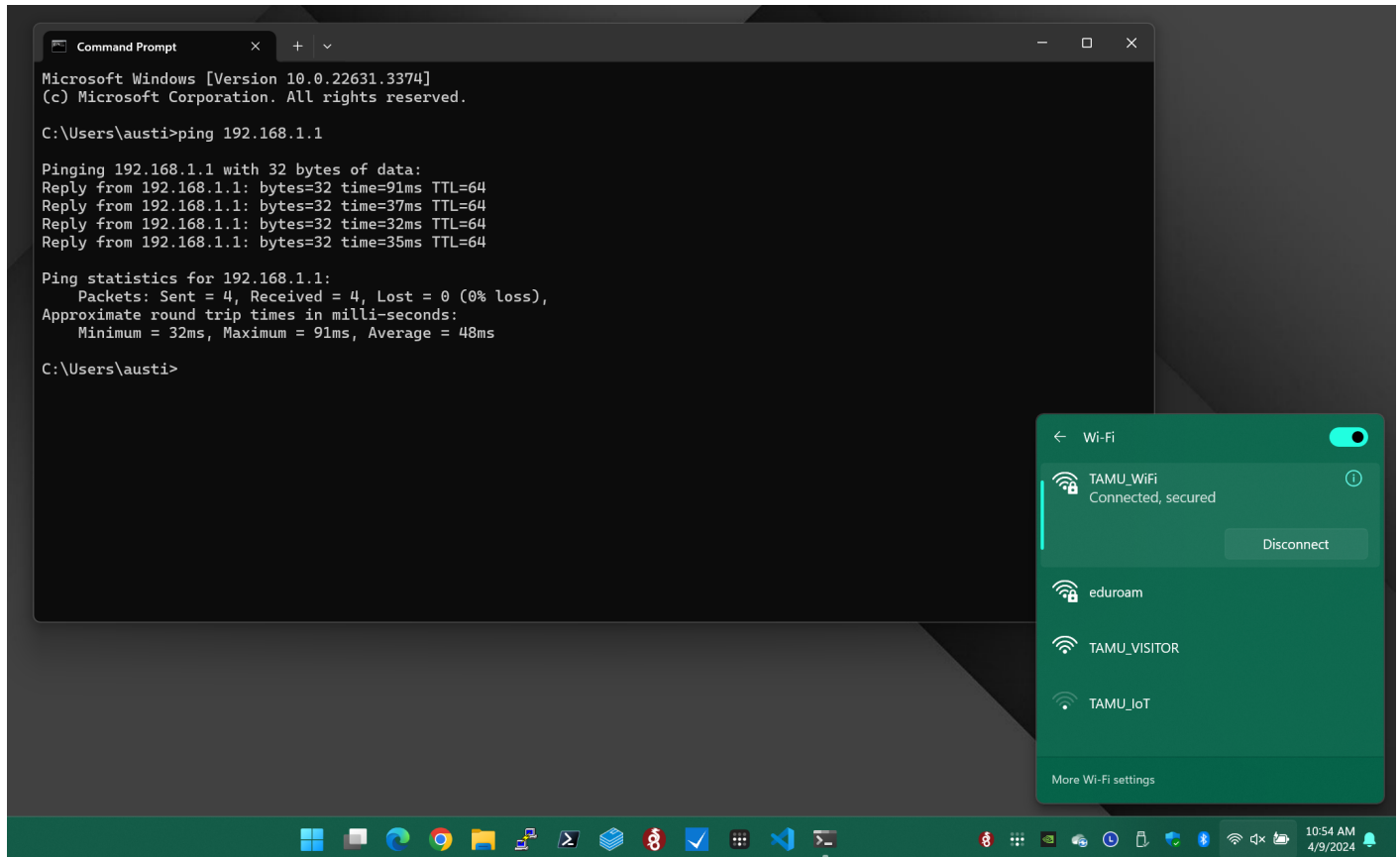
Save

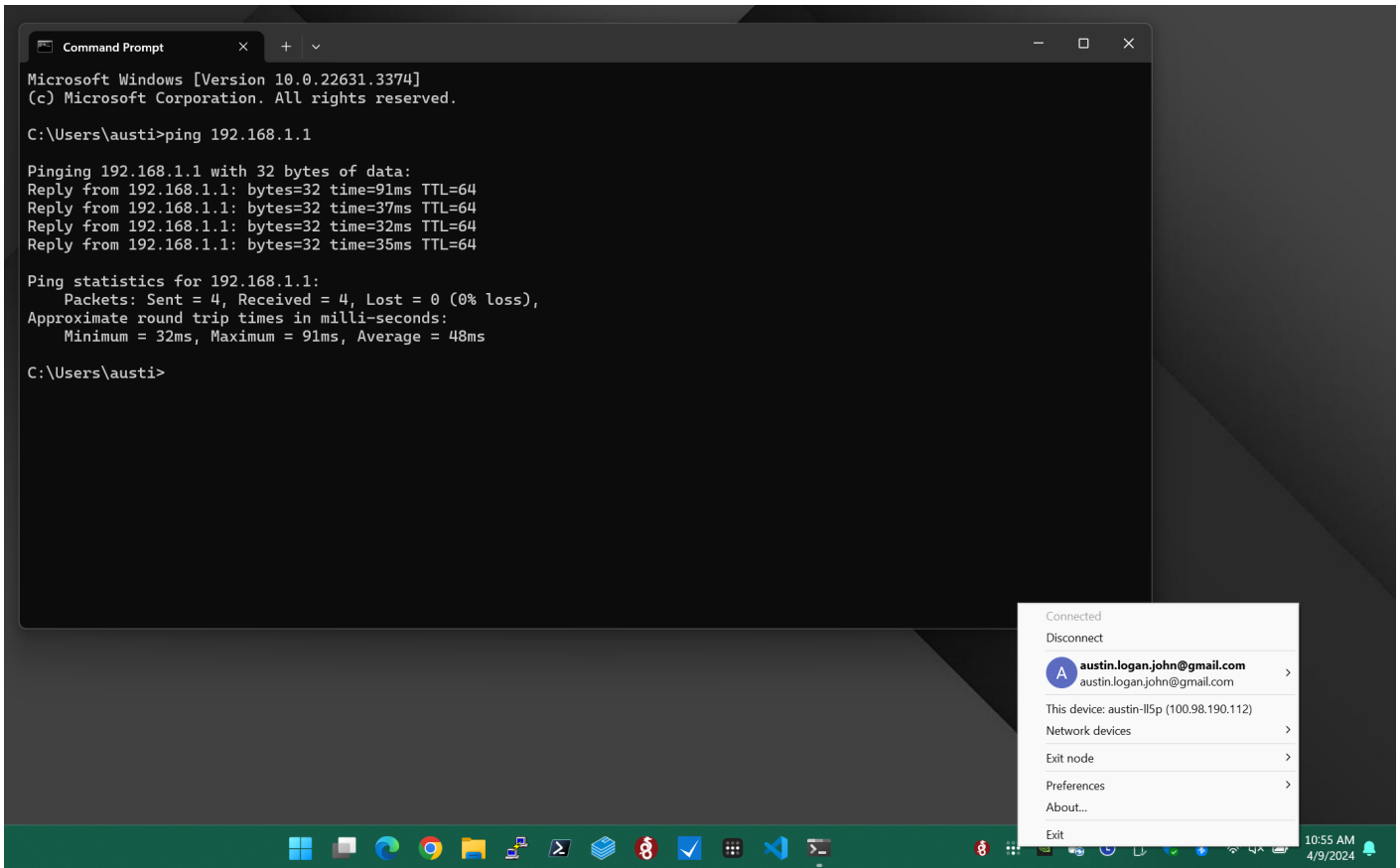
Additionally, an alternative to static port mapping would be to enable Universal Plug and Play. To do this, download the Universal Plug and Play plug in via OPNsense --->Firmware ---> Plug-Ins and enable the settings.

All set! See next page to view my connection results!

# Successful Connection

To test my connection, I went to my University library and tried to connect to my tailnet. As you can see below, I was able to ping my router gateway while connected to my University WiFi:





To update Tailscale, run the following commands:

```
cd /usr/ports/security/tailscale  
make deinstall
```

```
root@router:/usr/ports/security/tailscale # make deinstall  
==>  Deinstalling for tailscale  
==>  Deinstalling tailscale-1.62.1  
Checking integrity... done (0 conflicting)  
Deinstallation has been requested for the following 1 packages (of 0 packages in the universe):  
  
Installed packages to be REMOVED:  
    tailscale: 1.62.1  
  
Number of packages to be removed: 1  
  
The operation will free 29 MiB.  
[1/1] Deinstalling tailscale-1.62.1...  
[1/1] Deleting files for tailscale-1.62.1: 100%  
root@router:/usr/ports/security/tailscale #
```

```
make clean
```

```
root@router:/usr/ports/security/tailscale # make clean  
==>  Cleaning for tailscale-1.62.1  
root@router:/usr/ports/security/tailscale #
```

```
make install
```

Installation may take some time. After clean installation, restart the service:

```
service tailscaled restart
```

Check the version to confirm update:

```
tailscale version
```

```
root@router:/usr/ports/security/tailscale # service tailscaled restart
Stopping tailscaled.
Waiting for PIDS: 26136, 26136.
root@router:/usr/ports/security/tailscale # tailscale version
1.62.1
  go version: go1.22.1
root@router:/usr/ports/security/tailscale #
```