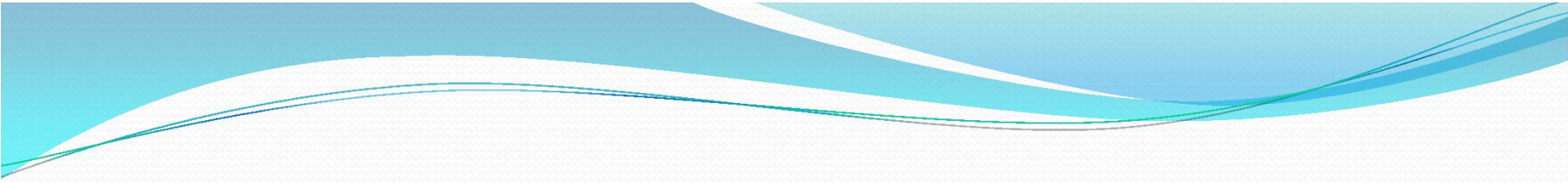


N1MM Networking

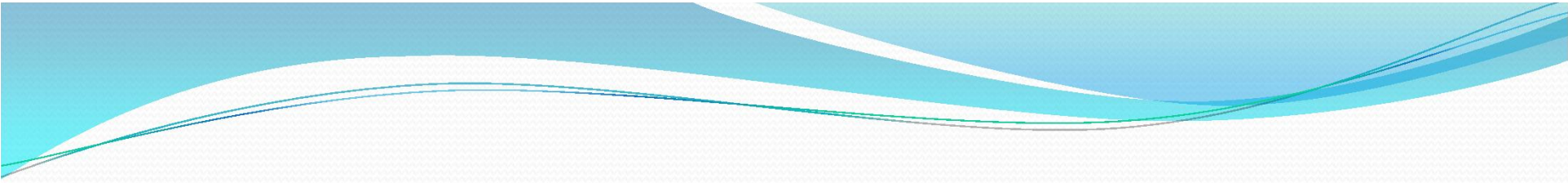
Using Tailscale

Jari Ojala
OH8LQ



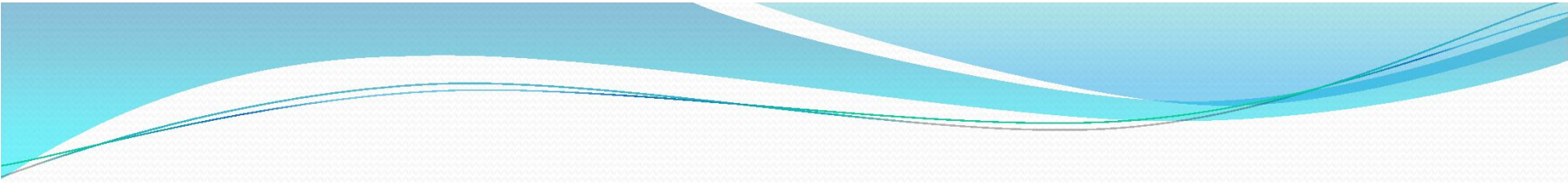
Tailscale

- Tailscale is a VPN solution that allows you to build a distributed mesh network, where each machine connects directly to the others.
- Free for six users
- “Unlimited” number of devices



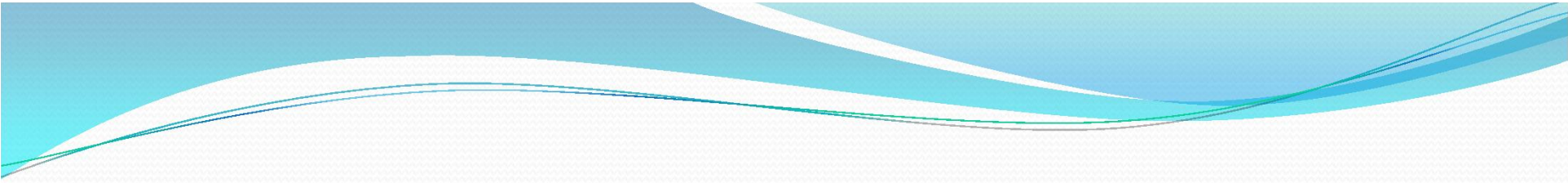
Tailscale limitation

- Tailscale limits users to six.
- In a distributed contest configuration, there can be significantly more stations.
 - Since there is no limit on the number of devices, it is a good idea to create a single Google account and use it to sign in on every station. From Tailscale's perspective, this results in a single user with multiple machines.
 - It is not advisable to use a personal account; instead, you should create a dedicated account for this purpose that is not used for anything else.



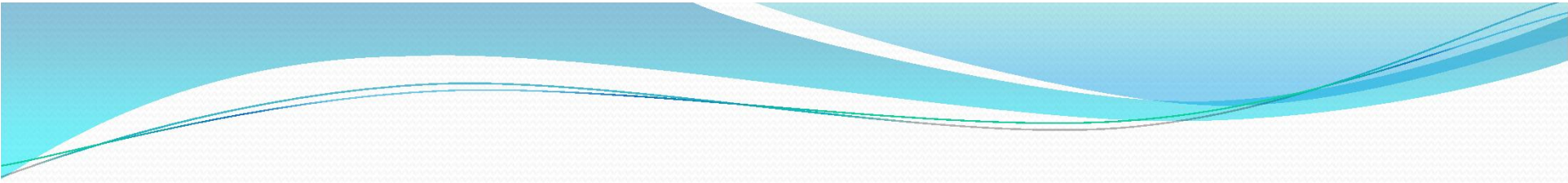
Creating a Tailscale account

- Go to tailscale.com in your browser.
- Log in using your existing account (e.g., Google, Microsoft, GitHub, or Apple). Tailscale does not use separate passwords but instead relies on the security of these services.



Install Tailscale for Windows.

- Download the official installation file from tailscale.com.
- After logging in, select the device's operating system and download the Tailscale client software suitable for that device.
- Open the downloaded file (tailscale-setup.exe) and follow the on-screen instructions to complete the installation.
- After installation, follow the provided instructions!



Logging into the application

- Once the installation is complete, Tailscale starts running in the background. A Tailscale icon (a gray or white spherical shape) appears in the bottom-right corner of the Windows taskbar (next to the clock, behind the arrow for hidden icons).
- The application will automatically open your browser and ask you to confirm the login. If this does not happen, right-click the Tailscale icon in the taskbar and select Log in....
- Click the Connect button in the browser.
- Your device is now connected to your secure tailnet! The taskbar icon turns bright to indicate that the connection is active.

Tailscale management

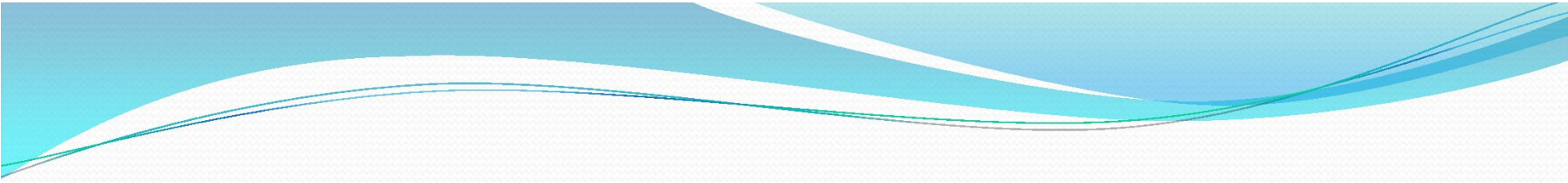
- Admin panel

The screenshot shows the Tailscale admin panel for user 'eemeli051@gmail.com'. The left sidebar contains navigation links: Network, Machines (selected), Apps, Services, DNS, Users, Access controls, Logs, and Settings. The main content area is titled 'Machines' and includes a search bar, a 'Filters' button, and a 'Learn more' link. Below this, a table lists 3 machines:

MACHINE	ADDRESSES	VERSION	LAST SEEN
desktop-a59tvfu eemeli051@gmail.com	100.81.95.110	1:104.1 Windows 11 25H2	Connected
desktop-i8d1q3b eemeli051@gmail.com	100.119.23.82	1:104.1 Windows 11 25H2	Connected
pc-xx eemeli051@gmail.com	100.73.94.1	1:104.1 Windows 11 25H2	Connected

Below the table, there is a section titled 'Add devices to your network' with the text: 'Tailscale works best when it's installed on multiple devices. Explore what you can do with Tailscale in these environments.' This section is divided into three columns: Operating systems (Windows, Linux, Mac, See more), Cloud providers (Add AWS VM, Microsoft Azure, Google Cloud Platform, See more), and Containers (Docker, Kubernetes).

In the admin panel, you can see the network-connected devices and their status. These IP addresses are needed for the N1MM settings.



N1MM settings

- Once all N1MM computers are on the same network, configure the N1MM network settings.
- Unlike with the Hamachi VPN solution, the machines' IP addresses must be entered manually via the N1MM Network Status window.
- Go to the "Actions" tab and the "Edit Computer Addresses" button.
- A window opens where the machine's NetBIOS name and IP address are entered.

IP addresses of N1MM computers

[illegible]

- The IP addresses and machine name can be obtained by copying them from the Tailscale admin panel.
- The completed address list can be exported to a file, which can then be imported onto all NiMM computers connected to the network.

Edit Networked Computer Addresses for 192.168.0.139

Computer (NetBios) Name	IP Address (WAN only)
DESKTOP-I8D1Q3B	100.119.23.82
PC-XX	100.73.94.1
DESKTOP-A59TVFU	100.81.95.110

To delete a row, Press Ctrl+Delete

Ok Cancel