

NethServer 8



Solid Foundation for Self-Hosting Web Applications

About Me: Gabriel Cossette



- Linux System Administrator (aka IT Geek)
- Live in Western Canada (Calgary, Alberta)
- Work for [Cybera](#) not-for-profit (focus on usage of digital tech in the province)
- Long-time fan/advocate of open source software and self-hosting!

What is Self-Hosting?

- Hosting of Web applications (from A to Z)
- At home or cloud provider (VPS or dedicated server)
- Often via containers (e.g. Docker)



Advantages of Self-Hosting

Depending on your situation...

- Better privacy
- More flexibility
- Higher performance
- Lower costs



“Boring” details to think about..

- Backups (!)
- Isolation between applications (e.g. containers)
- Common authentication in apps
- Scalability/multi-server
- Security (incl. app updates)
- Ease of use, community, support...



Many great existing solutions... but not complete

- Yunohost (✗ focus on containers)
- TrueNAS SCALE (✗ common auth)
- Co-op Cloud (✗ GUI and common auth)
- CasaOS, Runtipi (✗ native backup & common auth)
- Cosmos, Cloudrion, Unraid (✗ open source)...
- ...



NethServer 8!

A hidden gem!?



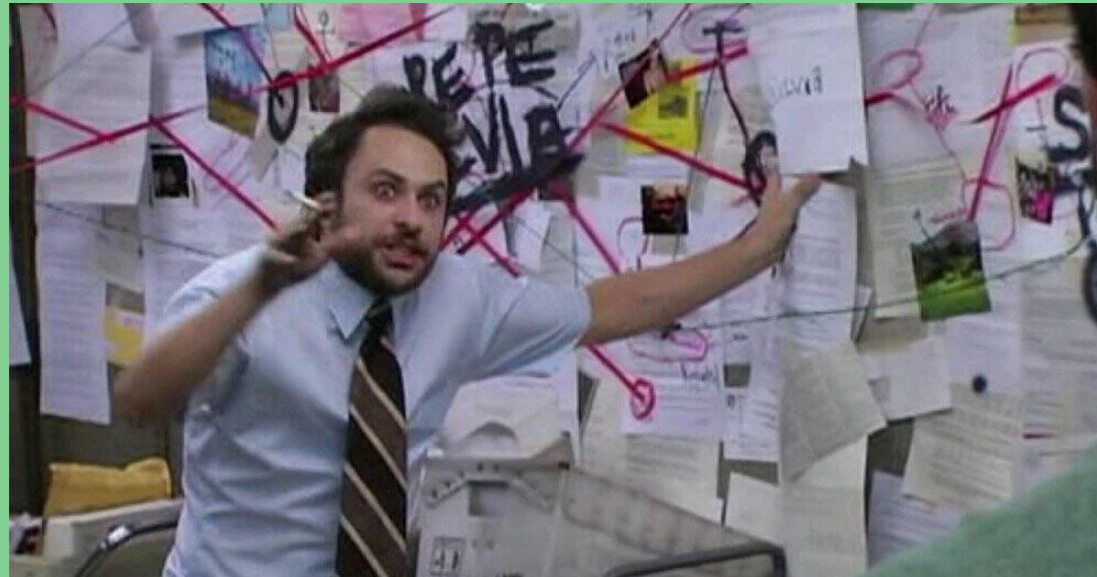
NethServer 8 – Features

- Install on different distros (Debian, AlmaLinux, CentOS Stream, Rocky Linux)
- Easy-to-use Web interface
- Multiple app stores
- Common authentication for apps
- Support multiple nodes (install & move apps, authentication...)
- Encrypted backups (S3 API and others)
- GPLv3 OSS license



NethServer 8 – Architecture

- Podman (+ Systemd) for running containers as non-root
- Wireguard automatic VPN between nodes
- Samba or OpenLDAP for authentication (available from any node)
- Traefik as reverse proxy
- Redis for cluster database



Demo Time!



Bonus Demo! (if time permits)



Thank you!



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community.nethserver.org/u/gabrielcossette

Project (incl. documentation): www.nethserver.org

Source code: github.com/nethserver

Community: community.nethserver.org

Wiki (incl. apps list): wiki.nethserver.org

Overview – App Store

NethServer 8

Cluster status
Nodes
Domains and users
Software center
Backup
System logs
Audit trail
Settings
About

Software center

Reload repositories

Search apps

All | Installed | Updates

BackupPC
Level 2/5
Collaboration
Install

CrowdSec
Level 4/5
Security
Install

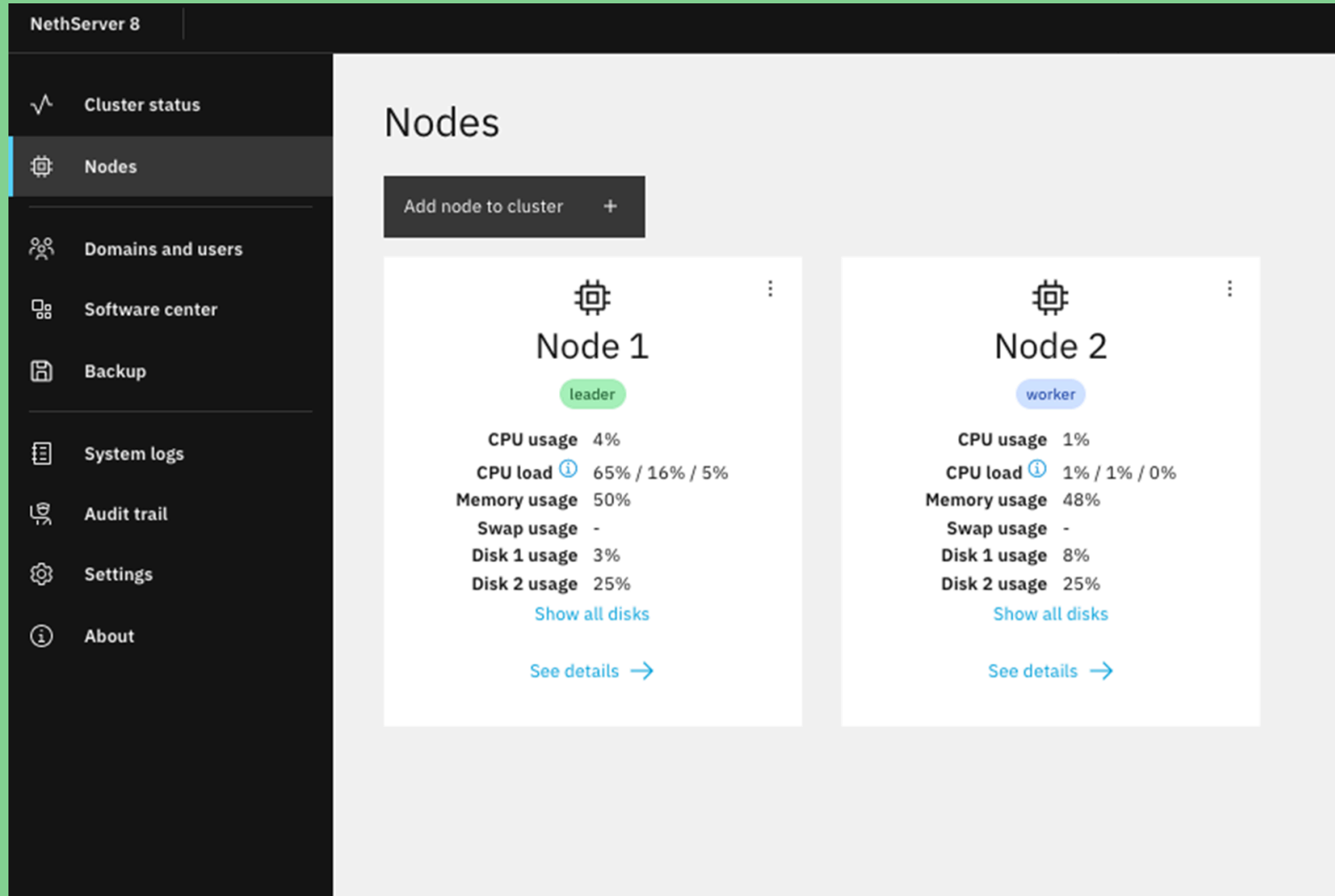
DNSMasq
Level 4/5
System administration
Install

Dokuwiki
Level 2/5
Collaboration
Install

Ejabberd
Level 4/5
Collaboration
Install

Grafana
Level 2/5
Monitoring
Install

Overview – Multi-server Aspect



The screenshot shows the NethServer 8 interface. On the left is a dark sidebar with navigation items: Cluster status, Nodes (selected), Domains and users, Software center, Backup, System logs, Audit trail, Settings, and About. The main content area is titled 'Nodes' and features a button 'Add node to cluster +'. Below this are two node cards. Node 1 is a 'leader' with 4% CPU usage, 65%/16%/5% CPU load, 50% memory usage, and 3% disk 1 usage. Node 2 is a 'worker' with 1% CPU usage, 1%/1%/0% CPU load, 48% memory usage, and 8% disk 1 usage. Both nodes have 'See details' links.

NethServer 8

Cluster status

Nodes

Domains and users

Software center

Backup

System logs

Audit trail

Settings

About

Nodes

Add node to cluster +

Node 1

leader

CPU usage 4%

CPU load ⓘ 65% / 16% / 5%

Memory usage 50%

Swap usage -

Disk 1 usage 3%

Disk 2 usage 25%

[Show all disks](#)

[See details →](#)

Node 2

worker

CPU usage 1%

CPU load ⓘ 1% / 1% / 0%

Memory usage 48%

Swap usage -

Disk 1 usage 8%

Disk 2 usage 25%

[Show all disks](#)

[See details →](#)

Overview – App Instances

Software center / CrowdSec

CrowdSec instances

Install new instance



crowdsec1

Node 2

Version 1.0.6

Open app



cro

☆ Add to favorites

✎ Edit instance label







📄 Clone

→ Move

🗑️ Uninstall

Overview – Backups

Add repository ×

 Backblaze B2	 Microsoft Azure blob storage
 Amazon S3	 S3 compatible provider
 Windows file share ⓘ	 Local storage

Overview – Monitoring

Nodes / Node 1

Node 1 leader

System

CPU

Usage 18%




Load ⓘ 5% / 10% / 5%

2-core GenuineIntel - DO-Premium-Intel

Memory

Usage 51%



Total 3.58 GiB

Used 1.82 GiB

Free 1.76 GiB

Swap

Usage -



Total 0 B

Used 0 B

Free 0 B

Disks

Disk 1

Usage 3%



Device /dev/vda1

Mount point /

File system xfs

Total 118.91 GiB

Used 4.06 GiB

Free 114.85 GiB

Disk 2

Usage 25%



Device /dev/vda2

Mount point /boot

File system xfs

Total 993.88 MiB

Used 248.09 MiB

Free 745.8 MiB

Disk 3

Usage 7%



Device /dev/vda15

Mount point /boot/efi

File system vfat

Total 98.78 MiB

Used 6.96 MiB

Free 91.82 MiB