

# Update #7 - Syncting UFW Rule Automation with DDNS Integration

**Date:** May 10, 2025

**Category:** Security / Automation

**Backlink:** [Update #6 - Fail2Ban Security Hardening](#)

## ☐☐ Overview

This update focused on hardening access to Syncting on the VPS. Instead of allowing unrestricted access to the Syncting web UI and sync ports, I created a secure and automated solution that dynamically resolves a DDNS hostname (masked here for privacy) and updates UFW rules accordingly. This ensures only the current home IP can connect to the Syncting interface and sync services.

## ☐☐ Tools & Technologies Used

- **Syncting** - Installed and configured on a headless Ubuntu VPS
- **UFW (Uncomplicated Firewall)** - Manages allowed IP access
- **DDNS (Dynamic DNS)** - Tracks home IP address
- **Bash Script** - Automates the rule refresh process
- **Systemd Cron Job** - Scheduled execution of the automation

## ☐☐ The Process

1. **Validated Syncting Setup**
  - Confirmed Syncting was installed and running.
  - Located its config and ensured `127.0.0.1:8384` was listening.
2. **Allowed Necessary Ports**

- Syncthing uses:
  - 8384/tcp – Web GUI
  - 22000/tcp – Sync traffic
  - 21027/udp – Local discovery
- Initially opened ports to Anywhere to confirm functionality.

### 3. Wrote an Automation Script

I created /usr/local/bin/update-syncthing-ufw.sh to:

- Resolve the DDNS hostname to a public IP.
- Delete any existing UFW rules for 8384, 22000, and 21027.
- Add new rules allowing traffic only from the current IP.

☐ Sample success message:

```
☐ UFW rules updated for Syncthing services from [masked DDNS IP]
```

### 4. Confirmed It Works

- Ran the script manually.
- Verified UFW rules with sudo ufw status numbered.
- Accessed the Syncthing Web UI remotely from home IP to confirm access.

### 5. Cleaned Up UFW Rules

- Removed Anywhere rules for Syncthing ports.
- Only the resolved DDNS IP is now allowed per service port.

### 6. Created a Daily Cron Job

- Added the following to root's crontab:

```
0 */6 * * * /usr/local/bin/update-syncthing-ufw.sh
```

- This updates the rule every 6 hours in case the home IP changes.

## ☐ The Result

- Syncthing Web UI and sync features are only accessible from home IP.
- All UFW rules now reflect the current public IP automatically.
- No more manual UFW updates or security exposure.
- This complements previous hardening efforts made in [Update #6](#).

## ☐☐ What I Learned

- UFW's rule numbers change dynamically; scripting is essential for removal before re-addition.
  - You can safely update firewall rules on a schedule without needing manual login.
  - Protecting even the Web GUI of Syncthing is important in public VPS setups.
  - DDNS + automation = powerful security combo.
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