Update #3 - Hardening Security of the BookStack.

After migrating my BookStack documentation system to a public-facing VPS, my next priority was to harden the server. The goal was to lock down remote access, guard against brute-force attacks, and ensure the system was updated automatically, all while maintaining reliable access for legitimate admin use.

The Setup

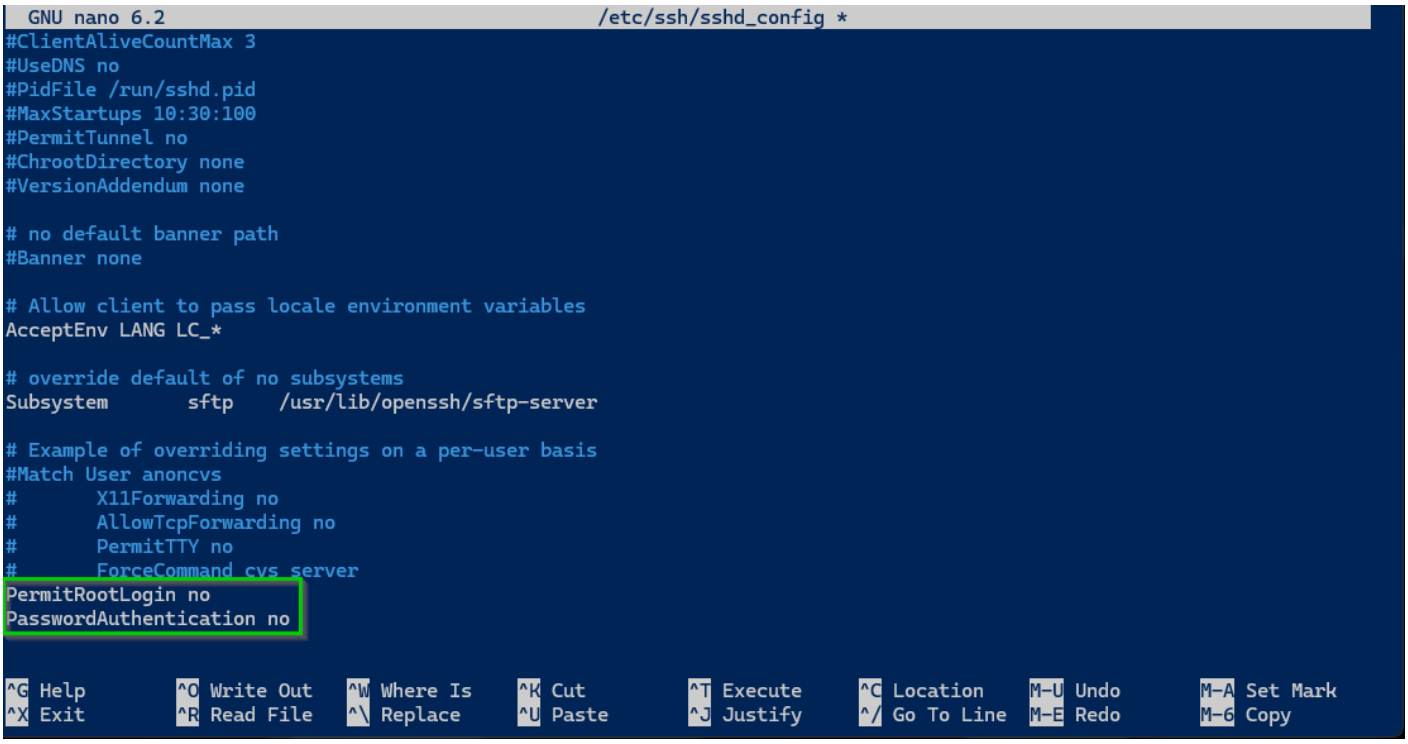
The VPS is running **Ubuntu 22.04 LTS**, hosting BookStack on a full **LAMP stack**. With the public site live, it was time to secure the perimeter.

The Process

1. Hardened SSH Configuration

I edited `/etc/ssh/sshd_config` to improve SSH security:

- Disabled root login
- Disabled password-based authentication
- Enforced key-based authentication



Once updated, I restarted SSH:

```
sudo systemctl restart ssh
```

2. Enabled UFW Firewall

I verified UFW firewall settings to ensure only necessary traffic was allowed:

- **OpenSSH** for SSH access
- **Apache Full** for BookStack

3. Installed and Configured Fail2Ban

Fail2Ban helps block brute-force attacks. After installation, it was monitoring the SSH log (`/var/log/auth.log`).

```
sudo apt install fail2ban
```

```
● fail2ban.service - Fail2Ban Service
     Loaded: loaded (/lib/systemd/system/fail2ban.service; enabled; vendor preset: enabled)
     Active: active (running) since Sun 2025-05-04 00:17:41 UTC; 19h ago
       Docs: man:fail2ban(1)
   Main PID: 3851 (fail2ban-server)
      Tasks: 5 (limit: 9477)
     Memory: 14.6M
        CPU: 18.585s
     CGroup: /system.slice/fail2ban.service
             └─3851 /usr/bin/python3 /usr/bin/fail2ban-server -xf start

May 04 00:17:41 srv814261 systemd[1]: Started Fail2Ban Service.
May 04 00:17:41 srv814261 fail2ban-server[3851]: Server ready
```

Screenshot: Fail2Ban Jail Status

```
[redacted]:~$ sudo fail2ban-client status
Status
|- Number of jail:      1
`- Jail list:   sshd
[redacted]:~$ sudo fail2ban-client status sshd
Status for the jail: sshd
|- Filter
|  |- Currently failed: 1
|  |- Total failed:     25
|  `- File list:        /var/log/auth.log
`- Actions
   |- Currently banned: 0
   |- Total banned:     0
   `- Banned IP list:
[redacted]:~$ sudo apt install unattended-upgrades
```

4. Enabled Unattended Security Updates

To keep the VPS patched automatically, I installed and configured unattended upgrades:

```
sudo apt install unattended-upgrades
sudo dpkg-reconfigure unattended-upgrades
```

This ensures security updates are applied daily with minimal overhead.

The Result

The VPS is now protected with hardened SSH access, firewall filtering, brute-force detection, and automatic security patching, while keeping full control over my public documentation setup.

What I Learned

- A single open SSH port can attract attention fast
- Disabling root login and passwords makes a big difference
- Fail2Ban provides great peace of mind
- UFW simplifies firewall management
- Automated updates are essential for long-term hardening

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