

PM2 and Caddy

Chapter: PM2 and Caddy - Process Manager Meets Web Server

Chapter 1: Introduction to PM2

What is PM2?

- **PM2** is a **production process manager** for Node.js applications.
- Keeps your app **alive forever**, automatically restarts on crashes.
- Works well with **cluster mode**, **log management**, and **performance monitoring**.

Why Use PM2?

- Auto-restarts your app on failure or system reboot.
- Provides a simple command-line interface for:
 - Logs
 - Monitoring
 - Clustering
 - Memory limits and auto-restart
- Easy integration with CI/CD and deployment.

Chapter 2: PM2 Essentials

Install PM2

```
npm install -g pm2
```

Basic Usage

```
pm2 start index.js --name my-app  
pm2 logs my-app  
pm2 restart my-app  
pm2 stop my-app  
pm2 delete my-app
```

Auto Start on Reboot

```
pm2 startup  
pm2 save
```

Monitoring and Performance

```
pm2 monit
```

Chapter 3: Log Management with PM2

View Logs

```
pm2 logs
```

Install log rotation

```
pm2 install pm2-logrotate  
pm2 set pm2-logrotate:max_size 10M
```

This prevents log files from eating up disk space.

Chapter 4: Introduction to Caddy

What is Caddy?

- **Caddy** is a modern **web server and reverse proxy** written in Go.
- Comes with **automatic HTTPS** using Let's Encrypt.
- Simple, powerful **Caddyfile** configuration syntax.

Why Use Caddy?

- Simple alternative to Nginx or Apache.
- Built-in:
 - HTTPS certificate generation and renewal.
 - Reverse proxy.
 - Static file hosting.
- Great for developers who want a secure reverse proxy with **zero config SSL**.

Chapter 5: Caddy Setup & Reverse Proxy

Install Caddy on Ubuntu

```
apt install -y debian-keyring debian-archive-keyring apt-transport-https
curl -1sLf 'https://dl.cloudsmith.io/public/caddy/stable/gpg.key' | gpg --dearm
or -o /usr/share/keyrings/caddy-stable-archive-keyring.gpg
curl -1sLf 'https://dl.cloudsmith.io/public/caddy/stable/debian.deb.txt' | tee /et
c/apt/sources.list.d/caddy-stable.list
apt update
apt install caddy
```

Basic **Caddyfile**

```
yourdomain.com {
  reverse_proxy localhost:3000
}
```

- Automatically sets up HTTPS.

- Routes traffic to your Node app on port 3000.

Start & Reload

```
sudo systemctl start caddy
sudo caddy reload
```

Chapter 6: Deploy Node App with PM2 + Caddy (End-to-End)

1. Pull app from GitHub
2. Install Node, PM2
3. Run app with `pm2 start`
4. Configure Caddy to reverse proxy
5. App is now:
 - Always on
 - Monitored
 - HTTPS-enabled

Summary Table

Feature	PM2	Caddy
Purpose	Node.js Process Manager	Reverse Proxy + Web Server
Restarts App	✅ Auto on crash	❌
Monitors Logs	✅ <code>pm2 logs</code> , <code>pm2 monit</code>	❌ (external tools needed)
HTTPS Support	❌	✅ Automatic via Let's Encrypt
Reverse Proxy	❌	✅
Easy Setup	✅ via CLI	✅ via Caddyfile