PM2 Node process manager

START HERE

`pm2 start <file>`
Run an app in the background

`pm2 monit`
Live CPU and memory

`pm2 list`
What is running?

`pm2 save`
Remember the list for reboots

`pm2 logs`
Stream all logs

`pm2 restart <name>`
Restart an app

`pm2 stop <name>`
Stop an app

`pm2 delete <name>`
Remove from the list

pm2 CLI your commands → talks to **PM2 daemon** keeps apps alive → spawns **Your apps** fork or cluster → write to **Log files** ~/.pm2/logs

CONCEPTS

PM2 runs a background daemon that owns your apps: closing the terminal does not stop them.

The process list lives in the daemon's memory; pm2 save plus pm2 startup make it survive a reboot.

In a container use pm2-runtime instead of pm2: it stays in the foreground as PID 1.

START AND RUN

`pm2 start <file>`
Start an app as a daemonized process

`pm2 start <file> --name <name>`
Start under a custom name

`pm2 start <file> -- <args>`
Pass arguments to the script

`pm2 start <file> --watch`
Restart when files change

`pm2 start <file> --watch --ignore-watch "node_modules"`
Watch but skip a path

`pm2 start <file> --max-memory-restart <size>`
Restart above a memory limit
Size such as 200M.

START AND RUN (cont.)

`pm2 start <file> --interpreter <bin>`
Run with another interpreter

`pm2 start <file> --cron-restart "<cron>"`
Restart on a schedule

`pm2 start <file> --no-autorestart`
Do not restart when it exits

`pm2 start <file> --restart-delay <ms>`
Wait between restarts

`pm2 start <file> --exp-backoff-restart-delay <ms>`
Back off between crash restarts

`pm2 start <file> --max-restarts <n>`
Give up after n restarts

`pm2 serve <path> <port>`
Serve a static directory

INSPECT AND LOGS

`pm2 list`
Table of all processes
Aliases: ls, status.

`pm2 logs`
Stream logs of all apps

`pm2 logs <name>`
Stream logs of one app

`pm2 monit`
Live CPU, memory and logs

`pm2 logs --lines <n>`
Show the last n lines first

INSPECT AND LOGS (cont.)

`pm2 logs --err`
Only error output

`pm2 logs --nostream`
Print recent logs and exit

`pm2 describe <name>`
All details of one process

`pm2 flush`
Empty all log files

CONTROL

`pm2 restart <name>`
Kill and start again

`pm2 stop <name>`
Stop but keep in the list

`pm2 delete <name>`
Stop and remove from the list

`pm2 reload <name>`
Zero-downtime restart
Only graceful for cluster mode; fork-mode apps get a plain restart.

`pm2 restart all`
Restart every app

`pm2 stop all`
Stop every app

`pm2 delete all`
Remove every app

`pm2 restart <name> --update-env`
Restart with the current shell env
Without it the restart reuses the env saved at first start.

CONTROL (cont.)

`pm2 reset <name>`
Zero the restart counters

CLUSTER MODE

`pm2 start <file> -i max`
One instance per CPU core

`pm2 start <file> -i <n>`
Run n load-balanced instances

`pm2 scale <name> <n>`
Set the instance count

`pm2 scale <name> +<n>`
Add n instances

restart or reload

Command	Behaviour
`pm2 restart`	hard stop, then start
`pm2 reload`	one instance at a time, cluster only

ECOSYSTEM FILE

`pm2 ecosystem`
Generate ecosystem.config.js

`pm2 start ecosystem.config.js`
Start all apps in the file

`pm2 start ecosystem.config.js --env <name>`
Use the env_<name> block

`pm2 start ecosystem.config.js --only <app>`
Act on one app of the file

ECOSYSTEM FILE (cont.)

`pm2 startOrRestart ecosystem.config.js`
Start new apps, restart running ones

`pm2 startOrReload ecosystem.config.js`
Same, but with a graceful reload

Config key and CLI flag

Key	Flag
`name`	--name
`instances`	-i
`watch`	--watch
`max_memory_restart`	--max-memory-restart
`cron_restart`	--cron-restart
`env_<name>`	--env <name>

ecosystem.config.js

```
module.exports = {
  apps: [{
    name: "api",
    script: "./server.js",
    instances: "max",
    max_memory_restart: "300M",
    env: { NODE_ENV:
"development" },
    env_production: { NODE_ENV:
"production" }
  }]
};
```

BOOT AND UPKEEP

`pm2 startup`
Print the boot-hook command to run
Run the printed sudo command, then pm2 save.

BOOT AND UPKEEP (cont.)

`pm2 save`
Save the list for resurrect

`pm2 resurrect`
Restore the saved list

`pm2 update`
Reload the daemon after upgrading

`pm2 install pm2-logrotate`
Rotate log files

`pm2 kill`
Stop the daemon and all apps

RECIPES

Deploy and survive reboots

```
pm2 start ecosystem.config.js
--env production
pm2 save
pm2 startup
# run the sudo command it
prints
```

Release with no downtime

```
git pull && npm ci
pm2 reload <name> --update-env
pm2 logs <name> --lines 50
```

Cluster with a safety net

```
pm2 start server.js --name api
-i max \
  --max-memory-restart 300M
pm2 scale api 2
pm2 monit
```

Debug a crash loop

```
pm2 list
pm2 describe <name>
pm2 logs <name> --err --lines
100
pm2 reset <name>
```