Traefik Edge router and proxy

CONCEPTS

EntryPoint port :80 / :443
↓ rule matches
Router rule + priority
↓ runs
Middlewares auth, redirect, headers
↓ forwards
Service load balancer
↓ to
Backend container / server

> Static config (entrypoints, providers, resolvers) is read at start; dynamic config (routers, services, middlewares) reloads live.

> Use one static method only: file, CLI flags or environment variables. Mixing them gives unexpected results.

> Rules use backticks; single quotes are rejected. In YAML or labels, quote the whole value.

RUN AND STATIC CONFIG

`traefik --configFile=<file>`
Start with a config file

`traefik --entryPoints.<name>.address=<addr>`
Define an entry point, e.g. :80

`traefik --providers.docker=true`
Enable the Docker provider

`traefik --providers.file.directory=<dir>`
Load dynamic config from a folder

`traefik --api.dashboard=true`
Serve the dashboard

`traefik --log.level=DEBUG`
Set the log level

`traefik --providers.docker.exposedByDefault=false`
Expose only labelled containers

`traefik --providers.file.watch=true`
Reload file config on change

DOCKER LABELS

`traefik.enable=true`
Include this container

`traefik.http.routers.<r>.rule=Host(`<host>`)`
Route a hostname to it

`traefik.http.routers.<r>.entrypoints=<ep>`
Listen on this entry point

`traefik.http.services.<s>.loadbalancer.server.port=<port>`
Backend port inside the container

`traefik.http.routers.<r>.tls=true`
Serve this router over TLS

`traefik.http.routers.<r>.tls.certresolver=<res>`
Get a certificate from a resolver

`traefik.http.routers.<r>.middlewares=<m>`
Attach middlewares, comma separated

`traefik.docker.network=<net>`
Network Traefik uses to reach it

`traefik.http.services.<s>.loadbalancer.healthcheck.path=<path>`
Probe the backend on a path

`traefik.http.middlewares.<m>.<type>.<opt>=<val>`
Define a middleware inline

ROUTER RULES

`Host(`<domain>`)`
Match a hostname

`PathPrefix(`/<prefix>`)`
Match a path prefix

`Path(`/<path>`)`
Match an exact path

`Host(`a`) && PathPrefix(`/api`)`
Combine with AND

`Host(`a`) || Host(`b`)`
Combine with OR

`HostRegexp(`^[a-z]+\.example\.com$`)`
Match a hostname by regex

`ClientIP(`10.0.0.0/8`)`
Match the client address or CIDR

MIDDLEWARES

`redirectscheme.scheme=https`
Redirect HTTP to HTTPS

`stripprefix.prefixes=/<prefix>`
Remove a path prefix

`basicauth.users=<user>:<hash>`
Password-protect a route

`ratelimit.average=<n>`
Limit requests per second

`ipallowlist.sourcerange=<cidr>`
Allow only listed clients

TLS AND ACME

`--certificatesresolvers.<res>.acme.email=<addr>`
Account email

`--certificatesresolvers.<res>.acme.storage=<file>`
Where certs are stored

`--certificatesresolvers.<res>.acme.tlschallenge=true`
Use the TLS-ALPN challenge

`--certificatesresolvers.<res>.acme.httpchallenge.entrypoint=web`
Use the HTTP challenge

`--certificatesresolvers.<res>.acme.dnschallenge.provider=<p>`
Use a DNS challenge (wildcards)

`--certificatesresolvers.<res>.acme.caserver=<url>`
Use another ACME server

`--entryPoints.web.http.redirections.entryPoint.to=websecure`
Redirect a whole entry point

FILE PROVIDER

`http.routers.<r>.rule`
Router in dynamic YAML

`http.services.<s>.loadBalancer.servers[].url`
Backend address in a service

HEALTH AND DEBUGGING

`traefik healthcheck`
Check /ping, exit 0 if healthy