Hadolint Dockerfile linter

CONCEPTS

> Hadolint parses the Dockerfile into an AST, applies its own DLxxxx rules and runs ShellCheck (SCxxxx) on every RUN.

Dockerfile file or stdin
↓ parse
DL rules build best practices
↓ RUN lines
ShellCheck SC rules on shell
↓ filter
Report tty, json, sarif, ...
↓ threshold
Exit code 0 or 1

RUN IT

`hadolint <Dockerfile>`
Lint a file

`hadolint <Dockerfile> <Dockerfile2>`
Lint several files

`hadolint - < Dockerfile`
Read the Dockerfile from stdin

`docker run --rm -i hadolint/hadolint < Dockerfile`
Run without installing

`podman run --rm -i docker.io/hadolint/hadolint < Dockerfile`
Same via Podman

`docker run --rm -i -v "$PWD/.hadolint.yaml:/.config/hadolint.yaml" hadolint/hadolint < Dockerfile`
Use a config in the container

`hadolint --version`
Show the version

`hadolint --help`
List all options

`brew install hadolint`
Install on macOS

RULES AND SEVERITY

`--ignore <RULE>`
Ignore a rule (repeatable)

`--error <RULE>`
Raise a rule to error

`--warning <RULE>`
Set a rule to warning

`--info <RULE>`
Set a rule to info

RULES AND SEVERITY (cont.)

`--style <RULE>`
Set a rule to style

`--trusted-registry <host>`
Only allow FROM images from this registry

`--require-label <label>:<type>`
Require a label with a value type

`--strict-labels`
Reject labels not in the schema

`--disable-ignore-pragma`
Ignore all inline ignore comments

FAILURE AND OUTPUT

`-t <level>` / `--failure-threshold <level>`
Exit non-zero from this severity up

`--no-fail`
Always exit 0

`-f <format>`
Choose the output format

`-f json`
JSON array of findings

`-f sarif`
SARIF for code scanning

`-f checkstyle`
Checkstyle XML

`-f codeclimate` / `-f gitlab_codeclimate`
Code Climate JSON

`-f gnu`
GNU-style file:line: messages

`--no-color`
Plain text output

INLINE PRAGMAS

`# hadolint ignore=<RULE>`
Ignore a rule for the next instruction

`# hadolint ignore=<RULE1>,<RULE2>`
Ignore several rules at once

`# hadolint global ignore=<RULE>`
Ignore a rule for the whole file

> Put the pragma on its own line directly above the instruction it covers.

CONFIG FILE

`.hadolint.yaml`
Project config in the current directory

`-c <file>` / `--config <file>`
Use an explicit config file

`ignored: [DL3008, DL3059]`
List ignored rules

`trustedRegistries: [docker.io]`
Allowed FROM registries

`failure-threshold: warning`
Set the threshold

`override: {error: [DL3010]}`
Change rule severities

COMMON RULES

DL3006
Tag the base image version

DL3007
Do not use the latest tag

DL3008
Pin apt-get package versions

DL3009
Delete apt lists after installing

DL3002
Last USER should not be root

DL3003
Use WORKDIR, not cd

DL4006
Set pipefail before piping in RUN

RECIPES

CI gate: fail on warnings and worse

```
hadolint -t warning Dockerfile
```

Project config

```
# .hadolint.yaml
ignored:
  - DL3008
trustedRegistries:
  - docker.io
  - ghcr.io
failure-threshold: warning
```

Lint all Dockerfiles in a repo

```
find . -name 'Dockerfile*' -
print0 \
  | xargs -0 hadolint -f json >
hadolint.json
```

Targeted pragma

```
# hadolint ignore=DL3008
RUN apt-get update && apt-get
install -y curl
```