
colin

Mar 14, 2022

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Welcome to the Colin documentation !

CHAPTER 1

About

Colin is a tool to check generic rules/best-practices for containers/images/dockerfiles.

Colin is a short cut for **CO**ntainer **LI**Nter

CHAPTER 2

CLI Usage

This is how you can use colin afterwards:

```
$ colin --help
Usage: colin [OPTIONS] COMMAND [ARGS]...

COLIN -- Container Linter

Options:
  -V, --version  Show the version and exit.
  -h, --help     Show this message and exit.

Commands:
  check          Check the image/dockerfile (default).
  info           Show info about colin and its dependencies.
  list-checks    Print the checks.
  list-rulesets  List available rulesets.
```

Let's give it a shot:

```
$ colin -f ./rulesets/fedora.json registry.fedoraproject.org/f29/cockpit
PASS:Label 'architecture' has to be specified.
PASS:Label 'build-date' has to be specified.
FAIL:Label 'description' has to be specified.
PASS:Label 'distribution-scope' has to be specified.
FAIL:Label 'help' has to be specified.
FAIL:Label 'io.k8s.description' has to be specified.
FAIL:Label 'url' has to be specified.
PASS:Label 'vcs-ref' has to be specified.
PASS:Label 'vcs-type' has to be specified.
FAIL:Label 'vcs-url' has to be specified.
PASS:Label 'com.redhat.component' has to be specified.
FAIL:Label 'maintainer' has to be specified.
PASS:Label 'name' has to be specified.
PASS:Label 'release' has to be specified.
```

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```
FAIL:Label 'summary' has to be specified.  
PASS:Label 'version' has to be specified.  
FAIL:The 'helpfile' has to be provided.  
PASS:Label 'usage' has to be specified.  
  
PASS:10 FAIL:8
```

CHAPTER 3

Source code

You may also wish to follow the [GitHub colin repo](#) if you have a GitHub account. This stores the source code and the issue tracker for sharing bugs and feature ideas. The repository should be forked into your personal GitHub account where all work will be done. Any changes should be submitted through the pull request process.

4.1 Usage of colin in Python code

The colin CLI is only a wrapper around the colin's python library.

All functionality can be accessed directly from the python code:

4.2 Module `colin.core.colin`

4.2.1 Functions

get_checks(target_type=None, tags=None, ruleset_name=None, ruleset_file=None, ruleset=None, logging_level=30, checks_paths=None, skips=None) : Get the sanity checks for the target.

param skips name of checks to skip

param target_type TargetType enum

param tags list of str (if not None, the checks will be filtered by tags.)

param ruleset_name str (e.g. fedora; if None, default would be used)

param ruleset_file fileobj instance holding ruleset configuration

param ruleset dict, content of a ruleset file

param logging_level logging level (default logging.WARNING)

param checks_paths list of str, directories where the checks are present

return list of check instances

run(target, target_type, tags=None, ruleset_name=None, ruleset_file=None, ruleset=None, logging_level=30, checks_paths=None, pull=None, insecure=False, skips=None, timeout=None) : Runs the sanity checks for the target.

param timeout timeout per-check (in seconds)

param skips name of checks to skip

param target str (image name, oci or dockertar) or ImageTarget or path/file-like object for dockerfile

param target_type string, either image, dockerfile, dockertar

param tags list of str (if not None, the checks will be filtered by tags.)

param ruleset_name str (e.g. fedora; if None, default would be used)

param ruleset_file fileobj instance holding ruleset configuration

param ruleset dict, content of a ruleset file

param logging_level logging level (default logging.WARNING)

param checks_paths list of str, directories where the checks are present

param pull bool, pull the image from registry

param insecure bool, pull from an insecure registry (HTTP/invalid TLS)

return Results instance

4.3 List of all checks

Colin checks several labels and the best practises (e.g. helpfile check).

Since there can be many platforms/setups with different requirements, we can define so-called rulesets, that defines:

- subset of checks to be used,
- metadata changes/extensions.

Ruleset is only a json/yaml file with following structure:

```
{
  "version": "1",
  "name": "Ruleset for Fedora containers/images/dockerfiles.",
  "description": "This set of checks is defined by the Fedora Container Guidelines.",
  "contact_email": "user-cont-team@redhat.com",
  "checks": [
    {
      "name": "architecture_label"
    },
    {
      "name": "build-date_label"
    },
    :
    :
  ]
}
```

Rulesets in the *standard* location can be shown with `colin list-rulesets` and we can use them by name in other commands. (e.g. `colin check -r fedora`).

```
$ colin list-rulesets
default  (./rulesets/default.json)
fedora   (./rulesets/fedora.json)
fedora   (/home/flachman/.local/share/colin/rulesets/fedora.json)
```

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```
default (/home/flachman/.local/share/colin/rulesets/default.json)
fedora (/usr/local/share/colin/rulesets/fedora.json)
default (/usr/local/share/colin/rulesets/default.json)
```

Colin can use ruleset-files in the following directories:

- ./rulesets/ (subdirectory of the current working directory)
- ~/.local/share/colin/rulesets/ (user installation)
- /usr/local/share/colin/rulesets/ (system-wide installation if *sys.prefix* is not */usr/local*)
- *sys.prefix*/share/colin/rulesets/ (system-wide installation)

We can easily list the checks with the following command:

```
$ colin list-checks -f rulesets/fedora.json
architecture_label
  -> Label 'architecture' has to be specified.
  -> Architecture the software in the image should target. (Optional: if omitted, it
↳ will be built for all supported Fedora Architectures)
  -> https://fedoraproject.org/wiki/Container:Guidelines#LABELS
  -> label, architecture

build-date_label
  -> Label 'build-date' has to be specified.
  -> Date/Time image was built as RFC 3339 date-time.
  -> https://github.com/projectatomic/ContainerApplicationGenericLabels/blob/master/
↳ vendor/redhat/labels.md
  -> label, build-date

description_label
  -> Label 'description' has to be specified.
  -> Detailed description of the image.
  -> https://github.com/projectatomic/ContainerApplicationGenericLabels/blob/master/
↳ vendor/redhat/labels.md
  -> label, description

distribution-scope_label
  -> Label 'distribution-scope' has to be specified.
  -> Scope of intended distribution of the image. (private/authoritative-source-only/
↳ restricted/public)
  -> https://github.com/projectatomic/ContainerApplicationGenericLabels/blob/master/
↳ vendor/redhat/labels.md
  -> label, distribution-scope

help_label
  -> Label 'help' has to be specified.
  -> A runnable command which results in display of Help information.
  -> https://fedoraproject.org/wiki/Container:Guidelines#LABELS
  -> label, help

io.k8s.description_label
  -> Label 'io.k8s.description' has to be specified.
  -> Description of the container displayed in Kubernetes
  -> ['https://github.com/projectatomic/ContainerApplicationGenericLabels/blob/
↳ master/vendor/redhat/labels.md', 'https://github.com/projectatomic/
↳ ContainerApplicationGenericLabels/blob/master/vendor/redhat/labels.md#other-labels']
```

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```

-> label, io.k8s.description, description

url_label
-> Label 'url' has to be specified.
-> A URL where the user can find more information about the image.
-> https://fedoraproject.org/wiki/Container:Guidelines#LABELS
-> label, url

vcs-ref_label
-> Label 'vcs-ref' has to be specified.
-> A 'reference' within the version control repository; e.g. a git commit, or a
↳subversion branch.
-> https://github.com/projectatomic/ContainerApplicationGenericLabels/blob/master/
↳vendor/redhat/labels.md
-> label, vcs-ref, vcs

vcs-type_label
-> Label 'vcs-type' has to be specified.
-> The type of version control used by the container source. Generally one of git,
↳hg, svn, bsr, cvs
-> https://github.com/projectatomic/ContainerApplicationGenericLabels/blob/master/
↳vendor/redhat/labels.md
-> label, vcs-type, vcs

vcs-url_label
-> Label 'vcs-url' has to be specified.
-> URL of the version control repository.
-> https://github.com/projectatomic/ContainerApplicationGenericLabels/blob/master/
↳vendor/redhat/labels.md
-> label, vcs-url, vcs

com.redhat.component_label
-> Label 'com.redhat.component' has to be specified.
-> The Bugzilla component name where bugs against this container should be
↳reported by users.
-> https://fedoraproject.org/wiki/Container:Guidelines#LABELS
-> label, com.redhat.component, required

maintainer_label
-> Label 'maintainer' has to be specified.
-> The name and email of the maintainer (usually the submitter).
-> https://fedoraproject.org/wiki/Container:Guidelines#LABELS
-> label, maintainer, required

name_label
-> Label 'name' has to be specified.
-> Name of the Image or Container.
-> https://fedoraproject.org/wiki/Container:Guidelines#LABELS
-> label, name, required

release_label
-> Label 'release' has to be specified.
-> Release Number for this version.
-> https://fedoraproject.org/wiki/Container:Guidelines#LABELS
-> label, release, required

summary_label

```

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```

-> Label 'summary' has to be specified.
-> A short description of the image.
-> https://fedoraproject.org/wiki/Container:Guidelines#LABELS
-> label, summary, required

version_label
-> Label 'version' has to be specified.
-> Version of the image.
-> https://fedoraproject.org/wiki/Container:Guidelines#LABELS
-> label, version, required

from_tag_not_latest
-> In FROM, tag has to be specified and not 'latest'.
-> Using the 'latest' tag may cause unpredictable builds. It is recommended that a
↳ specific tag is used in the FROM.
-> https://fedoraproject.org/wiki/Container:Guidelines#FROM
-> dockerfile, from, baseimage, latest, required

maintainer_deprecated
-> Dockerfile instruction `MAINTAINER` is deprecated.
-> Replace with label 'maintainer'.
-> https://docs.docker.com/engine/reference/builder/#maintainer-deprecated
-> dockerfile, maintainer, deprecated, required

description_or_io.k8s.description_label
-> Label 'description' or 'io.k8s.description' has to be specified.
-> Detailed description of the image.
-> https://github.com/projectatomic/ContainerApplicationGenericLabels/blob/master/
↳ vendor/redhat/labels.md
-> label, description, required

help_file_or_readme
-> The 'helpfile' has to be provided.
-> Just like traditional packages, containers need some 'man page' information.
↳ about how they are to be used, configured, and integrated into a larger stack.
-> https://fedoraproject.org/wiki/Container:Guidelines#Help\_File
-> filesystem, helpfile, man, required

run_or_usage_label
-> Label 'usage' has to be specified.
-> A human readable example of container execution.
-> https://fedoraproject.org/wiki/Container:Guidelines#LABELS
-> label, usage, required

```


CHAPTER 5

Index and Search

- `genindex`
- `search`