



# Automated checking with GHA

<https://github.com/r-lib/actions>

**July 2022**

**Gábor Csárdi**

**@gaborcsardi**

**Software Engineer, RStudio**



# Continuous Integration (CI) with GitHub Actions



- Automated service to run code
- GitHub Actions (GHA)  
<https://github.com/features/actions>
- Free for open source  
<https://github.com/features/actions#pricing-details>
- GHA for R developers  
<https://github.com/r-lib/actions>

# Getting started: <https://github.com/r-lib/actions>



☰ README.md

## GitHub Actions for the R language

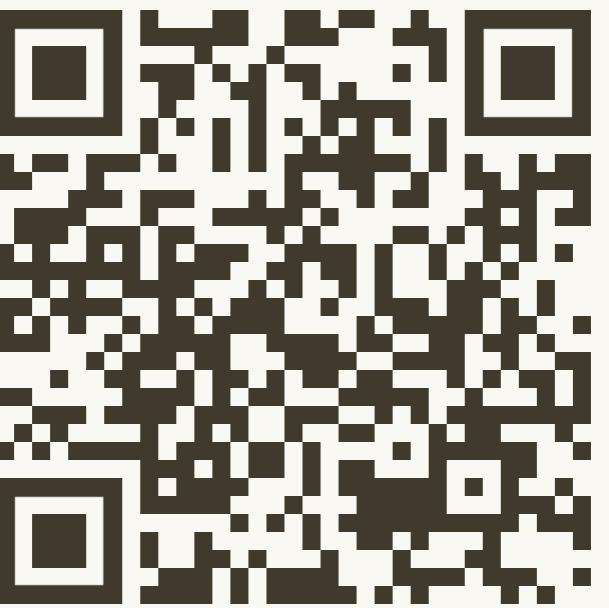
 R-CMD-check passing  R Community  github-actions

This repository stores [GitHub Actions](#) for R projects, which can be used to do a variety of CI tasks. It also has a number of [example workflows](#) which use these actions.

## Getting started

See [this blog post](#) on the Tidyverse blog.

# Getting started: <https://github.com/r-lib/actions>



## GitHub Actions for R developers, v2

<https://www.tidyverse.org/blog/2022/06/actions-2-0-0>

### Setting up r-lib/actions

...

```
usethis::use_github_action("check-standard")
usethis::use_github_action("test-coverage")
usethis::use_github_action("pkgdown")
```

```
usethis::use_github_action("check-standard")
```



```
✓ Setting active project to '/Users/gaborcsardi/works/tiff'  
✓ Creating '.github/'  
✓ Adding '^\\.github$' to '.Rbuildignore'  
✓ Adding '*.html' to '.github/.gitignore'  
✓ Creating '.github/workflows/'  
✓ Saving 'r-lib/actions/examples/check-standard.yaml@v2' to '.github/workflows/check-standard.yaml'  
• Learn more at <https://github.com/r-lib/actions/blob/v2/examples/README.md>.  
>  
> gert::git_status()  
# A tibble: 2 × 3  
  file      status staged  
  <chr>     <chr>  <lgl>  
1 .github/   new    FALSE  
2 .Rbuildignore new    FALSE  
>  
> gert::git_add(c(".Rbuildignore", ".github"))  
# A tibble: 3 × 3  
  file      status staged  
  <chr>     <chr>  <lgl>  
1 .github/.gitignore  new    TRUE  
2 .github/workflows/check-standard.yaml new    TRUE  
3 .Rbuildignore  new    TRUE
```

# .github/workflows/check-standard.yaml



```
# Workflow derived from
# https://github.com/r-lib/actions/tree/v2/examples
# Need help debugging build failures? Start at
# https://github.com/r-lib/actions#where-to-find-help
on:

push:
  branches: [main, master]

pull_request:
  branches: [main, master]

name: R-CMD-check
```

# .github/workflows/check-standard.yaml #2



```
jobs:  
  R-CMD-check:  
    runs-on: ${{ matrix.config.os }}  
  
    name: ${{ matrix.config.os }} (${{ matrix.config.r }})  
  
    strategy:  
      fail-fast: false  
  
    matrix:  
      config:  
        - {os: macOS-latest, r: 'release'}  
        - {os: windows-latest, r: 'release'}  
        - {os: ubuntu-latest, r: 'devel', http-user-agent: 'release'}  
        - {os: ubuntu-latest, r: 'release'}  
        - {os: ubuntu-latest, r: 'oldrel-1'}
```

# .github/workflows/check-standard.yaml #3



```
steps:  
  - uses: actions/checkout@v2  
  - uses: r-lib/actions/setup-pandoc@v2  
  - uses: r-lib/actions/setup-r@v2  
    with:  
      r-version: ${{ matrix.config.r }}  
      http-user-agent: ${{ matrix.config.http-user-agent }}  
      use-public-rspm: true  
  - uses: r-lib/actions/setup-r-dependencies@v2  
    with:  
      extra-packages: any :: rcmdcheck  
      needs: check  
  - uses: r-lib/actions/check-r-package@v2  
    with:  
      upload-snapshots: true
```

# Workflows

gaborcsardi/tiff

Public

forked from cran/tiff

Watch ▾

Fork ▾



Code

Pull requests

Actions

Projects

Settings

Releases

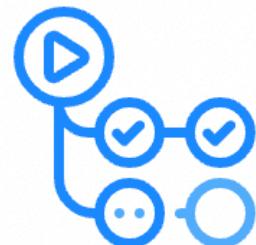
15

...

## Workflows

New workflow

All workflows



Tell us how to make GitHub Actions work better for you  
with three quick questions.

Give feedback ×

R-CMD-check

## All workflows

Showing runs from all workflows

Filter workflow runs

1 workflow run

Event ▾

Status ▾

Branch ▾

Actor ▾

✖ Add GHA check

R-CMD-check #1: Commit b902cbb pushed by  
gaborcsardi

master



9 minutes ago

2m 53s

# Actions at <https://github.com/r-lib/actions>



## List of actions

1. [r-lib/actions/setup-r](#) - Sets up R
2. [r-lib/actions/setup-r-dependencies](#) - Installs packages declared in **DESCRIPTION**
3. [r-lib/actions/setup-rev](#) - Installs packages from rev lockfile
4. [r-lib/actions/setup-pandoc](#) - Sets up pandoc
5. [r-lib/actions/setup-tinytex](#) - Sets up LaTeX with tinytex
6. [r-lib/actions/check-r-package](#) - Runs `R CMD check` on an R package
7. [r-lib/actions/pr-fetch](#) - Fetches changes of a PR associated with an event
8. [r-lib/actions/pr-push](#) - Pushes changes to a PR associated with an event
9. [r-lib/actions/run-rchk](#) - Runs rchk tests to detect memory protection errors in C source code

# Workflow runs

gaborcsardi / tiff Public forked from cran/tiff

Watch Fork ⚙

Code Pull requests Actions Projects Settings Releases 15 ⋮

Add GHA check R-CMD-check #1 Re-run jobs ⋮

Summary	Triggered via push 12 minutes ago	Status	Total duration	Artifacts
Jobs	 gaborcsardi pushed -o b902cbb master	Failure	2m 53s	-

macOS-latest (release) ✓

windows-latest (release) ✗

ubuntu-latest (devel) ✓

ubuntu-latest (release) ✓

ubuntu-latest (oldrel-1) ✓

**check-standard.yaml**  
on: push

Matrix: R-CMD-check

5 jobs completed

Show all jobs



# Workflow runs

windows-latest (release)  
failed 21 minutes ago in 1m 51s

Search logs

↻ ⚙

- > ✓ Set up job 5s
- > ✓ Run actions/checkout@v2 11s
- > ✓ Run r-lib/actions/setup-pandoc@v2 2s
- > ✓ Run r-lib/actions/setup-r@v2 17s
- > ✓ Run r-lib/actions/setup-r-dependencies@v2 37s
- > ✘ Run r-lib/actions/check-r-package@v2 34s
- > ✓ Post Run r-lib/actions/setup-r-dependencies@v2 0s
- > ✓ Post Run actions/checkout@v2 3s
- > ✓ Complete job 0s



# Workflow runs



```
44 — R CMD check —————
45 * using log directory 'D:/a/tiff/tiff/check/tiff.Rcheck'
46 * using R version 4.2.1 (2022-06-23 ucrt)
47 * using platform: x86_64-w64-mingw32 (64-bit)
48 * using session charset: UTF-8
49 * using options '--no-manual --as-cran'
50 * checking for file 'tiff/DESCRIPTION' ... 0K
51 * this is package 'tiff' version '0.1-10'
52 * checking package namespace information ... 0K
53 * checking package dependencies ... 0K
54 * checking if this is a source package ... 0K
55 * checking if there is a namespace ... 0K
56 * checking for executable files ... 0K
57 * checking for hidden files and directories ... 0K
58 * checking for portable file names ... 0K
59 * checking serialization versions ... 0K
60 * checking whether package 'tiff' can be installed ... ERROR
61 Error: Installation failed.
62 See 'D:/a/tiff/tiff/check/tiff.Rcheck/00install.out' for details.
63 * DONE
```

# Where to find help?



- 1.** <https://github.com/r-lib/actions>  
README
- 2.** README of the various actions
- 3.** README in r-lib/actions/examples
- 4.** Look at similar workflows, e.g. in the tidyverse or r-lib orgs
- 5.** GitHub Actions Community
- 6.** RStudio Community
- 7.** Look at the open r-lib/actions issues
- 8.** Open an issue at r-lib/actions

# Your turn



```
* [ ] `usethis::use_github_action("check-standard")`  
* [ ] `usethis::use_github_action("test-coverage")`  
* [ ] `usethis::use_github_action("pkgdown")`
```

I suggest you add them one by one, then commit and push to GitHub to see if it runs cleanly.