

Package ‘resultcheck’

September 27, 2026

Title Result Stability Checks for Empirical R Projects

Version 0.3.2

Description Lightweight helpers for checking whether empirical results remain substantively unchanged across code revisions, platform differences, and package updates. The package supports regression-style testing of derived datasets, statistical model outputs, tables, and plots, helping researchers detect unintended result drift early and distinguish material from non-material changes in empirical workflows.

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Encoding UTF-8

Imports withr, rprojroot, yaml

Suggests broom, knitr, rmarkdown, rstudioapi, testthat (>= 3.0.0),
waldo

URL <https://github.com/kv9898/resultcheck/>,
<https://kv9898.github.io/resultcheck/>

BugReports <https://github.com/kv9898/resultcheck/issues>

VignetteBuilder knitr

Config/roxygen2/version 8.1.0

NeedsCompilation no

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Repository CRAN

Date/Publication 2026-09-27 05:30:02 UTC

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cleanup_sandbox	<i>Clean Up a Sandbox Environment</i>
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Description

Removes a sandbox directory and all its contents. This should be called after testing is complete to free up disk space.

Usage

```
cleanup_sandbox(sandbox = NULL, force = TRUE)
```

Arguments

- sandbox Optional. A sandbox object created by setup_sandbox(). If NULL (default), cleans up the most recently created sandbox.
- force Logical. If TRUE (default), removes directory even if it contains files.

Value

Logical indicating success (invisible).

Examples

```
with_example({  
  sandbox <- setup_sandbox()  
  cleanup_sandbox(sandbox)  
})
```

find_root	<i>Find Project Root Directory</i>
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Description

Finds the root directory of the current R project using various heuristics. The function searches for markers like _resultcheck.yml (preferred), resultcheck.yml (legacy), .Rproj files, or a .git directory. When running inside a sandbox created by setup_sandbox(), it will search from the original working directory.

Usage

```
find_root(start_path = NULL)
```

Arguments

`start_path` Optional. The directory to start searching from. If NULL (default), uses the current working directory or the stored original working directory if in a sandbox.

Value

The path to the project root directory.

Examples

```
with_example({
  root <- find_root()
  print(root)
})
```

run_in_sandbox

Run Code in a Sandbox Environment

Description

Executes an R script within a sandbox directory, suppressing messages, warnings, and graphical output. This is useful for testing empirical analysis scripts without polluting the console or creating unwanted plots.

Usage

```
run_in_sandbox(
  script_path,
  sandbox = NULL,
  suppress_messages = TRUE,
  suppress_warnings = TRUE,
  capture_output = TRUE
)
```

Arguments

`script_path` Path to the R script to execute.

`sandbox` Optional. A sandbox object created by `setup_sandbox()`. If NULL (default), uses the most recently created sandbox.

`suppress_messages` Logical. Whether to suppress messages (default: TRUE).

`suppress_warnings` Logical. Whether to suppress warnings (default: TRUE).

`capture_output` Logical. Whether to capture output (default: TRUE).

Value

Invisible TRUE on successful execution.

Examples

```
with_example({
  sandbox <- setup_sandbox()
  on.exit(cleanup_sandbox(sandbox), add = TRUE)
  run_in_sandbox("analysis.R", sandbox)
})
```

setup_sandbox

Setup a Sandbox Environment for Testing

Description

Creates a temporary directory and copies specified files and/or directories into it while preserving their path structure. This is useful for testing empirical analysis scripts in isolation.

Usage

```
setup_sandbox(files = NULL, temp_base = NULL)
```

Arguments

files	Character vector of relative file or directory paths to copy to the sandbox. Leave as NULL (default) to create an empty sandbox. Paths are resolved relative to the project root (found using <code>find_root()</code>); if the project root cannot be determined the current working directory is used. When a path refers to a directory, the entire directory is copied recursively. Absolute paths and path traversal attempts (e.g., <code>..</code>) are rejected for security. Snapshot files do <i>not</i> need to be listed here: <code>snapshot()</code> always reads snapshots from the project root, not from the sandbox.
temp_base	Optional. Custom location for the temporary directory. If NULL (default), uses <code>tempfile()</code> .

Value

A list with class "resultcheck_sandbox" containing:

path	The path to the created temporary directory
id	A unique timestamp-based identifier for this sandbox

Examples

```
with_example({
  sandbox <- setup_sandbox()
  print(sandbox$path)
  cleanup_sandbox(sandbox)
})
```

 snapshot

Interactive Snapshot Testing

Description

Creates or updates a snapshot of an R object for interactive analysis. On first use, saves the object to a human-readable snapshot file (.md). On subsequent uses, compares the current object to the saved snapshot.

Usage

```
snapshot(value, name, script_name = NULL, method = NULL)
```

Arguments

value	The R object to snapshot (e.g., plot, table, model output).
name	Character. A descriptive name for this snapshot.
script_name	Optional. The name of the script creating the snapshot. If NULL, auto-detects via <code>rstudioapi::getSourceEditorContext()\$path</code> (in RStudio), then <code>QUARTO_DOCUMENT_FILE</code> or <code>knitr::current_input()</code> , falling back to the call stack and finally "interactive".
method	Optional function or non-empty list of functions used to serialize value. Functions are executed in order and each section header is taken from the method expression or list name. If omitted, method defaults are resolved in this order: <code>snapshot.method_by_class</code> (matched by object class), then <code>snapshot.method</code> , then <code>list(print = base::print, str = utils::str)</code> .

Details

In interactive mode (default), prompts the user to update if differences are found and emits a warning. In testing mode (inside `run_in_sandbox()`), throws an error if a snapshot doesn't exist or doesn't match. During a Quarto render, missing snapshots are created, while mismatches throw an error and stop rendering.

Snapshots are stored under `tests/_resultcheck_snaps/` by default, organized by script name, and configurable via `snapshot.dir` in `_resultcheck.yml`. Method defaults can be configured via `snapshot.method` and class-specific defaults via `snapshot.method_by_class`. Optional class defaults can also be loaded from an R file using `snapshot.method_defaults_file`. Method strings in config (for example `"print + str"` or `"stats::coef"`) are resolved to callable functions. In config expressions, `"+"` is treated as the method delimiter.

Built-in class defaults (loaded from `inst/extdata/snapshot-method-defaults.R`) use broom functions for many statistical model classes. The default method is typically `broom::tidy`, with `broom::glance` and/or `broom::augment` added where supported (per the broom available-methods table at <https://broom.tidymodels.org/articles/methods.html>).

Set `snapshot.max_print` in the project's `_resultcheck.yml` (or legacy `resultcheck.yml`) to control base R printing during serialization. The default is 1000 entries per method, independent of session `max.print`. Values must be whole numbers from 1 to 2147483647; omitted or null values

use the default. The setting also applies when method is supplied. The caller's options are restored even if a method fails.

Entries are not rows or bytes: a 200-row, seven-column data frame contains 1400 entries and requires a higher limit, for example `max_print: 2000`. Base output beyond the limit can be truncated with an omission notice; changes in omitted values may not be detected. Increase the limit or select an appropriate summary method. Class-specific methods, including tibble printing, may use their own limits; custom methods may explicitly override this setting. Review and regenerate affected baselines when changing the limit or upgrading from session-dependent printing.

Value

Invisible TRUE if the snapshot matches, is created, or is updated. In testing mode, throws an error if the snapshot is missing or doesn't match. During a Quarto render, throws an error only on mismatch.

Examples

```
with_example({
  model <- stats::lm(mpg ~ wt, data = datasets::mtcars)
  snapshot(model, "model_default", script_name = "analysis")
  snapshot(model, "model_multi", script_name = "analysis",
    method = list(summary = summary, print = print))
  snapshot(model, "model_print", script_name = "analysis", method = print)
  snapshot(model, "model_ns", script_name = "analysis", method = stats::coef)
  snapshot(model, "model_length", script_name = "analysis", method = length)
})

with_example({
  sandbox <- setup_sandbox()
  on.exit(cleanup_sandbox(sandbox), add = TRUE)
  run_in_sandbox("analysis.R", sandbox)
})

if (interactive()) with_example({
  sandbox <- setup_sandbox()
  on.exit(cleanup_sandbox(sandbox), add = TRUE)
  run_in_sandbox("analysis.R", sandbox)
}, mismatch = TRUE)
```

with_example

Run Code Inside a Temporary Example Project

Description

Creates a self-contained example project under `tempdir()`, including:

- `_resultcheck.yml` (project root marker)
- `analysis.R` with `snapshot(model, "model")`
- matching and mismatched snapshot files

- tests/testthat/test-analysis.R

then temporarily sets the working directory to that project while evaluating code.

Usage

```
with_example(code, mismatch = FALSE)
```

Arguments

code	Code to evaluate inside the temporary example project.
mismatch	Logical. If TRUE, replaces the active snapshot with a mismatched version before evaluating code.

Value

The value of code.

Examples

```
with_example({  
  root <- find_root()  
  print(root)  
})
```

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