

git-pkgs

A git subcommand that indexes your dependency history into a local SQLite database, then lets you query it like git history.

```
$ brew tap git-pkgs/git-pkgs && brew install git-pkgs

$ go install github.com/git-pkgs/git-pkgs@latest

$ git pkgs --version
git-pkgs version 0.11.4
      commit faefea598fe88271224c668ca0b46716bbaf2dc7
      date 2026-01-31T21:25:27Z
```

```
$ git pkgs help
```

Available Commands:

add	Add a dependency
bisect	Find the commit that introduced a dependency-related change
blame	Show who added each dependency
browse	Open installed package source in editor
diff	Compare dependencies between commits or working tree
ecosystems	List supported ecosystems
history	Show history of dependency changes
info	Show database information
init	Initialize git-pkgs database for this repository
licenses	Show license information for dependencies
list	List dependencies at a commit
log	List commits with dependency changes
outdated	Find packages with newer versions available
sbom	Generate Software Bill of Materials
search	Find dependencies matching a pattern
show	Show dependency changes in a commit
stats	Show dependency statistics
tree	Display dependencies as a tree
vulns	Vulnerability scanning commands
where	Find where a package is declared
why	Show why a dependency was added

```
$ git pkgs ecosystems
```

Ecosystem	Manifest	Lockfiles	Managers	Registry
cargo	Cargo.toml	Cargo.lock	cargo	yes
composer	composer.json	composer.lock	composer	yes
gem	Gemfile	Gemfile.lock	bundler	yes
hex	mix.exs	mix.lock	mix	yes
npm	package.json	package-lock.json, yarn.lock...	npm, yarn...	yes
pypi	pyproject.toml	uv.lock, poetry.lock	uv, poetry	yes
pub	pubspec.yaml	pubspec.lock	pub	yes
cocoapods	Podfile	Podfile.lock	cocoapods	yes
maven	pom.xml	gradle.lockfile	maven, gradle	yes
nuget	packages.config	packages.lock.json	nuget	yes
cpan	cpanfile	cpanfile.snapshot	cpanm	yes
crystal	shard.yml	shard.lock	shards	no
swift	Package.swift	Package.resolved	swift	no
nix	flake.nix	flake.lock	nix	no
cran	DESCRIPTION	renv.lock	renv	yes
julia	Project.toml	Manifest.toml	pkg	yes
golang	go.mod		gomod	yes
deno	deno.json	deno.lock	deno	yes
conda	environment.yml		conda	yes
docker				no
...				

```
$ git pkgs init && git pkgs info
```

Database Info

=====

Location: /Users/andrew/code/octobox/.git/pkgs.sqlite3

Size: 10.3 MB

Schema version: 7

Branch: master

Last analyzed: 7825978

Row Counts

Branches	1
Commits	5237
Branch-Commits	5237
Manifests	9
Dependency Changes	4775
Dependency Snapshots	17932

Total	33191
-------	-------

Ecosystems: docker, gem, github-actions

```
$ git pkgs stats
```

```
Branch: master
```

```
Commits analyzed: 5237
```

```
Commits with changes: 2545
```

```
Current Dependencies: 246
```

```
  gem: 226, github-actions: 16, docker: 4
```

```
Dependency Changes: 4775
```

```
  added: 399, modified: 4223, removed: 153
```

```
Most Changed Dependencies
```

```
  rails: 133, pagy: 116, autoprefixer-rails: 109
```

```
  oj: 90, skylight: 87, nokogiri: 85, puma: 74
```

```
Top Contributors
```

```
  dependabot[bot]: 2816 changes
```

```
  Andrew Nesbitt: 1282 changes
```

```
  dependabot-preview[bot]: 467 changes
```

```
  Mark Tareshawty: 64 changes
```

```
$ git pkgs list --ecosystem=gem
```

```
Gemfile (gem):
```

```
  active_record_query_trace [development]
  attr_encrypted https://github.com/octobox/attr_encrypted.git
  benchmark
  better_errors [development]
  bootsnap
  bootstrap 4.6.2
  brakeman [development]
  bugsnag
  commonmarker 2.6.2
  dotenv-rails [development]
  factory_bot [test]
  faraday >= 2
  faraday-gzip
  faraday-retry
  gemoji <4
  jbuilder
  jquery-rails
  jwt
  listen [development]
  local_time 2.1.0
  ...
```

```
$ git pkgs tree --ecosystem=gem
```

```
Gemfile (gem)
```

```
├─ development
│   ├── active_record_query_trace
│   ├── better_errors
│   ├── brakeman
│   ├── dotenv-rails
│   ├── listen
│   ├── rails-controller-testing
│   ├── spring
│   ├── sql_queries_count
│   └─ web-console
├─ runtime
│   ├── attr_encrypted https://github.com/octobox/attr\_encrypted.git
│   ├── bootsnap
│   ├── bootstrap 4.6.2
│   ├── bugsnag
│   ├── commonmarker 2.6.2
│   ├── faraday >= 2
│   ├── jbuilder
│   ├── jquery-rails
│   └─ ...
└─ test
    ├── factory_bot
    ├── mocha
    └─ webmock
```

```
$ git pkgs search rails
```

autoprefixer-rails	10.4.21.0	(gem)
First seen: 2016-12-16	Last changed: 2025-04-14	
dotenv-rails	3.2.0	(gem)
First seen: 2016-12-16	Last changed: 2025-12-08	
jquery-rails	4.6.1	(gem)
First seen: 2016-12-16	Last changed: 2025-10-22	
omniauth-rails_csrf_protection	2.0.1	(gem)
First seen: 2021-11-02	Last changed: 2025-12-11	
rails	8.1.2	(gem)
First seen: 2016-12-16	Last changed: 2026-01-15	
rails-controller-testing	1.0.5	(gem)
First seen: 2016-12-16	Last changed: 2019-02-08	
rails-dom-testing	2.3.0	(gem)
First seen: 2016-12-16	Last changed: 2025-12-11	
rails-html-sanitizer	1.6.2	(gem)
First seen: 2016-12-16	Last changed: 2025-12-11	
railties	8.1.2	(gem)
First seen: 2016-12-16	Last changed: 2026-01-15	


```
$ git pkgs show e323669
```

```
Gemfile.lock:
```

```
~ active_record_query_trace 1.6.1 -> 1.9
```

```
~ brakeman 7.1.2 -> 8.0.1
```

```
~ bugsnag 6.28.0 -> 6.29.0
```

```
~ prism 1.8.0 -> 1.9.0
```

```
~ puma 7.1.0 -> 7.2.0
```

```
~ redis-client 0.26.3 -> 0.26.4
```

```
$ git pkgs history rails
```

```
History for rails:
```

```
2016-12-16 Added 5.0.0.1
```

```
Package: rails (gem)
```

```
Commit: e323669 Hello World
```

```
Author: Andrew Nesbitt <andrewnez@gmail.com>
```

```
2016-12-16 Added 6.5.3.1
```

```
Package: autoprefixer-rails (gem)
```

```
Commit: e323669 Hello World
```

```
Author: Andrew Nesbitt <andrewnez@gmail.com>
```

```
2016-12-16 Added 2.1.1
```

```
Package: dotenv-rails (gem)
```

```
Commit: e323669 Hello World
```

```
Author: Andrew Nesbitt <andrewnez@gmail.com>
```

```
2016-12-16 Added 4.2.1
```

```
Package: jquery-rails (gem)
```

```
Commit: e323669 Hello World
```

```
Author: Andrew Nesbitt <andrewnez@gmail.com>
```

```
...
```

```
$ git pkgs log
```

```
7825978 Ignore .gitattributes
```

```
Author: Andrew Nesbitt <andrewnez@gmail.com>
```

```
Date: 2026-01-31
```

```
Changes: ~6
```

```
cb3e017 build(deps): Bump commonmarker from 2.6.1 to 2.6.2
```

```
Author: dependabot[bot]
```

```
Date: 2026-01-20
```

```
Changes: ~2
```

```
d8d8666 build(deps): Bump github/codeql-action from 3.31.10 to 4...
```

```
Author: dependabot[bot]
```

```
Date: 2026-01-20
```

```
Changes: ~3
```

```
9bd74ac Add zizmor workflow and fix security findings
```

```
Author: Andrew Nesbitt <andrewnez@gmail.com>
```

```
Date: 2026-01-19
```

```
Changes: +2 ~11
```

```
f51f866 build(deps-dev): Bump listen from 3.9.0 to 3.10.0
```

```
Author: dependabot[bot]
```

```
Date: 2026-01-19
```

```
Changes: ~1
```

```
$ git pkgs why rails
```

```
rails was added in commit e323669
```

```
Date: 2016-12-16
```

```
Author: Andrew Nesbitt <andrewnez@gmail.com>
```

```
Manifest: Gemfile
```

```
$ git pkgs where dotenv-rails
```

```
Gemfile:48: gem 'dotenv-rails'
```

```
Gemfile.lock:126: dotenv-rails (3.2.0)
```

```
$ git pkgs browse rails
```

```
Opening /Users/andrew/.gem/ruby/3.3.0/gems/rails-8.1.2...
```

```
$ git pkgs blame
```

```
.github/workflows/ci.yml (github-actions):
```

actions/checkout	Andrew Nesbitt	2021-04-05	a83996d
actions/setup-node	Andrew Nesbitt	2021-04-05	a83996d
docker://postgres	Andrew Nesbitt	2021-04-05	a83996d
docker://redis	Andrew Nesbitt	2021-04-05	a83996d
ruby/setup-ruby	Andrew Nesbitt	2021-04-05	a83996d

```
.github/workflows/codeql-analysis.yml (github-actions):
```

actions/checkout	Andrew Nesbitt	2021-11-09	464afc8
github/codeql-action/analyze	Andrew Nesbitt	2021-11-09	464afc8
github/codeql-action/autobuild	Andrew Nesbitt	2021-11-09	464afc8
github/codeql-action/init	Andrew Nesbitt	2021-11-09	464afc8

```
.github/workflows/docker-build.yml (github-actions):
```

actions/checkout	Andrew Nesbitt	2025-07-28	ed1b8d2
------------------	----------------	------------	---------

```
.github/workflows/publish.yml (github-actions):
```

actions/checkout	Andrew Nesbitt	2023-04-18	e0a5436
docker/build-push-action	Andrew Nesbitt	2023-04-18	e0a5436
docker/login-action	Andrew Nesbitt	2023-04-18	e0a5436
docker/metadata-action	Andrew Nesbitt	2023-04-18	e0a5436

```
$ git pkgs outdated
```

```
Found 10 outdated dependencies:
```

```
Major updates:
```

```
attr_encrypted 3.1.0 -> 4.2.0
```

```
local_time 2.1.0 -> 3.0.2
```

```
popper_js 1.16.1 -> 2.11.8
```

```
bootstrap 4.6.2 -> 5.3.8
```

```
gemoji 3.0.1 -> 4.1.0
```

```
Minor updates:
```

```
ethon 0.15.0 -> 0.18.0
```

```
numerizer 0.1.1 -> 0.2.0
```

```
octicons 19.20.0 -> 19.21.2
```

```
Patch updates:
```

```
rake-compiler-dock 1.11.0 -> 1.11.1
```

```
commonmarker 2.6.2 -> 2.6.3
```

```
$ git pkgs licenses
actions/checkout (github-actions): MIT
actions/setup-node (github-actions): MIT
active_record_query_trace (gem): MIT
attr_encrypted (gem): MIT
benchmark (gem): Ruby
better_errors (gem): MIT
bootsnap (gem): MIT
bootstrap (gem): MIT
brakeman (gem): QPL-1.0
bugsnag (gem): MIT
commonmarker (gem): MIT
docker/build-push-action (github-actions): Apache-2.0
docker/login-action (github-actions): Apache-2.0
docker/metadata-action (github-actions): Apache-2.0
dotenv-rails (gem): MIT
factory_bot (gem): MIT
faraday (gem): MIT
jbuilder (gem): MIT
jwt (gem): MIT
library/postgres (docker): Apache-2.0
library/redis (docker): Apache-2.0
...
```

```
$ git pkgs vulns scan  
No vulnerabilities found.
```

```
$ git pkgs vulns log  
Vulnerability changes in 1 commits:
```

```
edbc795 build(deps): Bump public_suffix from 7.0.0 to 7.0.2  
+ GHSA-g9jg-w8vm-g96v - action_text-trix@2.1.15 (low)
```



```
$ git pkgs bisect start HEAD v3.0.0
```

```
Bisecting: 847 dependency-changing commits between v3.0.0 and HEAD
```

```
[a4b2c8d] build(deps): Bump rails from 6.1.4 to 6.1.5
```

```
$ git pkgs bisect good
```

```
Bisecting: 423 commits left to test
```

```
[f8e9d1a] build(deps): Bump nokogiri from 1.12.0 to 1.13.0
```

```
$ git pkgs bisect bad
```

```
Bisecting: 211 commits left to test
```

```
[c3a7b2e] build(deps): Bump puma from 5.3.0 to 5.4.0
```

```
$ git pkgs bisect reset
```

```
Returning to HEAD at 7825978
```

```
$ git pkgs add redis
```

```
Adding redis to Gemfile...
```

```
Running bundle install...
```

```
  Installing redis 5.4.0
```

```
Added redis 5.4.0 to Gemfile.lock
```

```
$ git pkgs update rails
```

```
Updating rails...
```

```
  rails 8.1.1 -> 8.1.2
```

```
  actioncable 8.1.1 -> 8.1.2
```

```
  actionmailer 8.1.1 -> 8.1.2
```

```
  activerecord 8.1.1 -> 8.1.2
```

```
Updated 12 dependencies
```

```
$ git pkgs remove unused-gem
```

```
Removing unused-gem from Gemfile...
```

```
Removed unused-gem and 3 unused transitive dependencies
```

id	INTEGER	PK
branch_id	INTEGER	
commit_id	INTEGER	
position	INTEGER	

branches

id	INTEGER	PK
name	TEXT	NOT NULL
last_analyzed_sha	TEXT	

commits

id	INTEGER	PK
sha	TEXT	NOT NULL
message	TEXT	
author_name	TEXT	
author_email	TEXT	
committed_at	DATETIME	

dependency_changes

id	INTEGER	PK
commit_id	INTEGER	
manifest_id	INTEGER	
name	TEXT	
change_type	TEXT	
old_version	TEXT	

```
$ sqlite3 .git/pkgs.sqlite3 "SELECT name, COUNT(*)  
  FROM dependency_changes GROUP BY name ORDER BY 2 DESC LIMIT 10;"  
rails|133  
pagy|116  
autoprefixer-rails|109  
oj|90  
skylight|87  
nokogiri|85  
puma|74  
actioncable|72  
actionmailer|72  
actionpack|72
```

Go Modules

→ github.com/git-pkgs/managers - Wrapping package manager CLIs behind a common interface

→ github.com/git-pkgs/manifests - Parsing manifest and lockfiles

→ github.com/git-pkgs/purl - Package URL construction, parsing, and registry URL mapping

→ github.com/git-pkgs/registries - Fetching package metadata from registry APIs

→ github.com/git-pkgs/spdx - SPDX license expression parsing and normalization

→ github.com/git-pkgs/vers - Version range parsing and comparison per the VERS spec

Thanks!

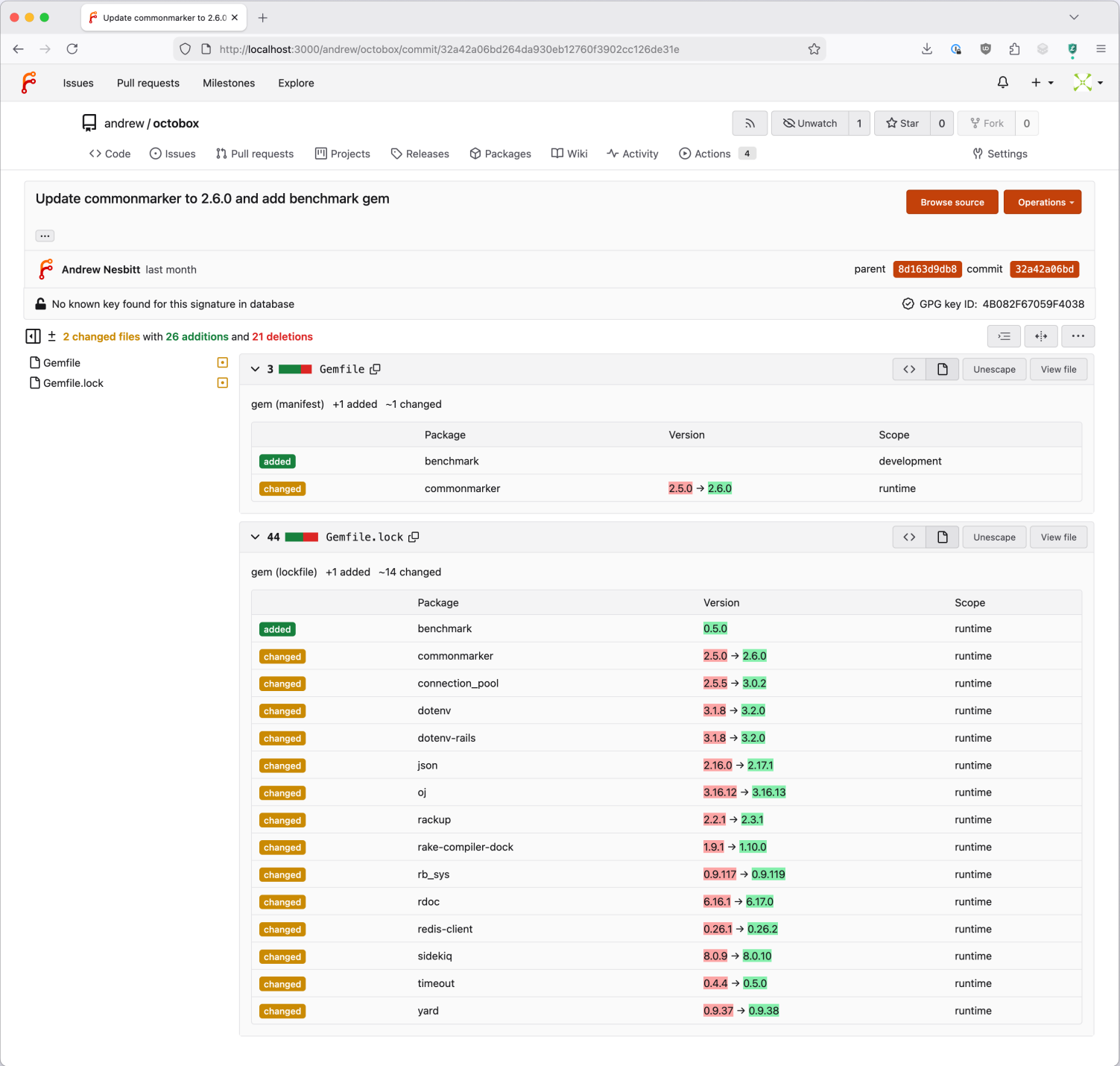


`git-pkgs.dev`

`github.com/git-pkgs/git-pkgs`

`andrew@ecosyste.ms`

Coming soon...



Dependencies - andrew/octobo: X

http://localhost:3000/andrew/octobox/dependencies

IssuesPull requestsMilestonesExplore

andrew / octobox

Unwatch1Star0Fork0

[Code](#)[Issues](#)[Pull requests](#)[Projects](#)[Releases](#)[Packages](#)[Wiki](#)[Activity](#)[Actions](#)4[Settings](#)

Dependencies

243Total

130Direct

2Ecosystems

4Manifests

docker

5 packages

Name	Version	Type	Manifest
octoboxio/octobox	latest	runtime	docker-compose.yml
postgres	16-alpine	runtime	docker-compose.yml
redis	7-alpine	runtime	docker-compose.yml
ruby	4.0.0-alpine	runtime	Dockerfile
ruby	4.0.0-alpine	runtime	Dockerfile

gem

238 packages

Name	Version	Type	Manifest
action_text-trix	2.1.16	runtime	Gemfile.lock
actioncable	8.1.2	runtime	Gemfile.lock
actionmailbox	8.1.2	runtime	Gemfile.lock
actionmailer	8.1.2	runtime	Gemfile.lock
actionpack	8.1.2	runtime	Gemfile.lock
actiontext	8.1.2	runtime	Gemfile.lock
actionview	8.1.2	runtime	Gemfile.lock
active_record_query_trace	1.6.1	runtime	Gemfile.lock
active_record_query_trace	-	dev	Gemfile
activejob	8.1.2	runtime	Gemfile.lock
activemodel	8.1.2	runtime	Gemfile.lock
activerecord	8.1.2	runtime	Gemfile.lock
activestorage	8.1.2	runtime	Gemfile.lock
activesupport	8.1.2	runtime	Gemfile.lock
addressable	2.8.8	runtime	Gemfile.lock
attr_encrypted	https://github.com/octobox/attr_encrypted.git	runtime	Gemfile
attr_encrypted	3.1.0	runtime	Gemfile.lock
autoprefixer-rails	10.4.21.0	runtime	Gemfile.lock
base64	0.3.0	runtime	Gemfile.lock
benchmark	0.5.0	runtime	Gemfile.lock