

Renovate: Automating Dependency Management

ARC Collaborations Hour

Patrick J. Roddy

2023-11-14

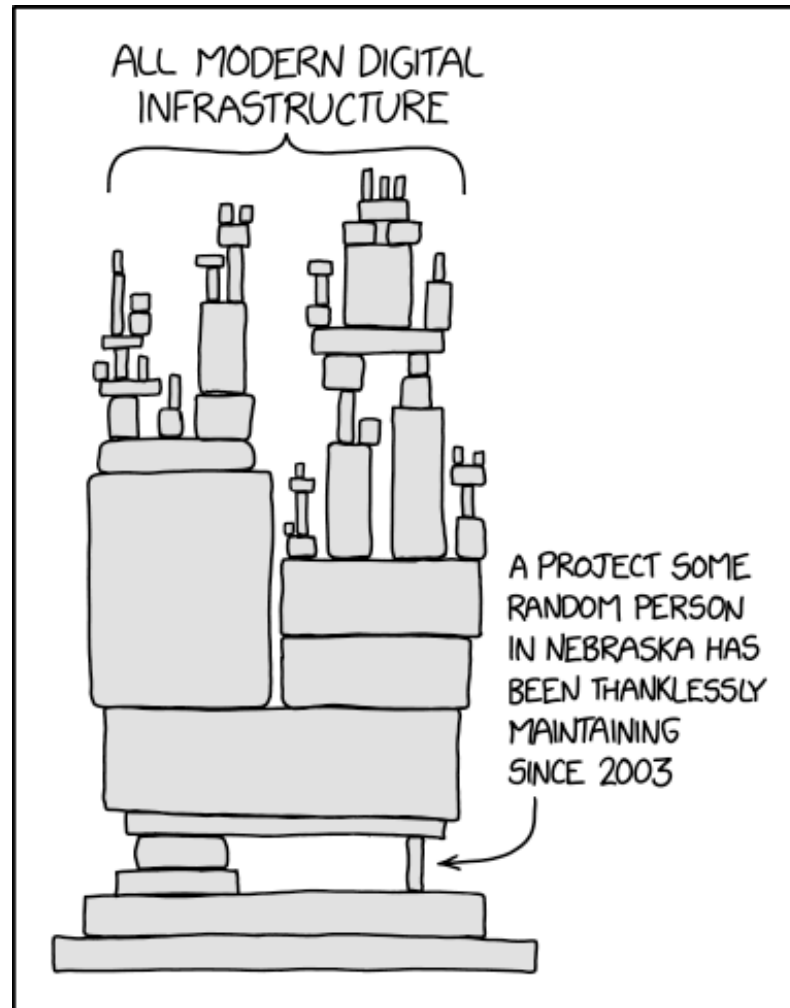
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Scan to view
the slides



Introduction

Dependencies Are Inevitable

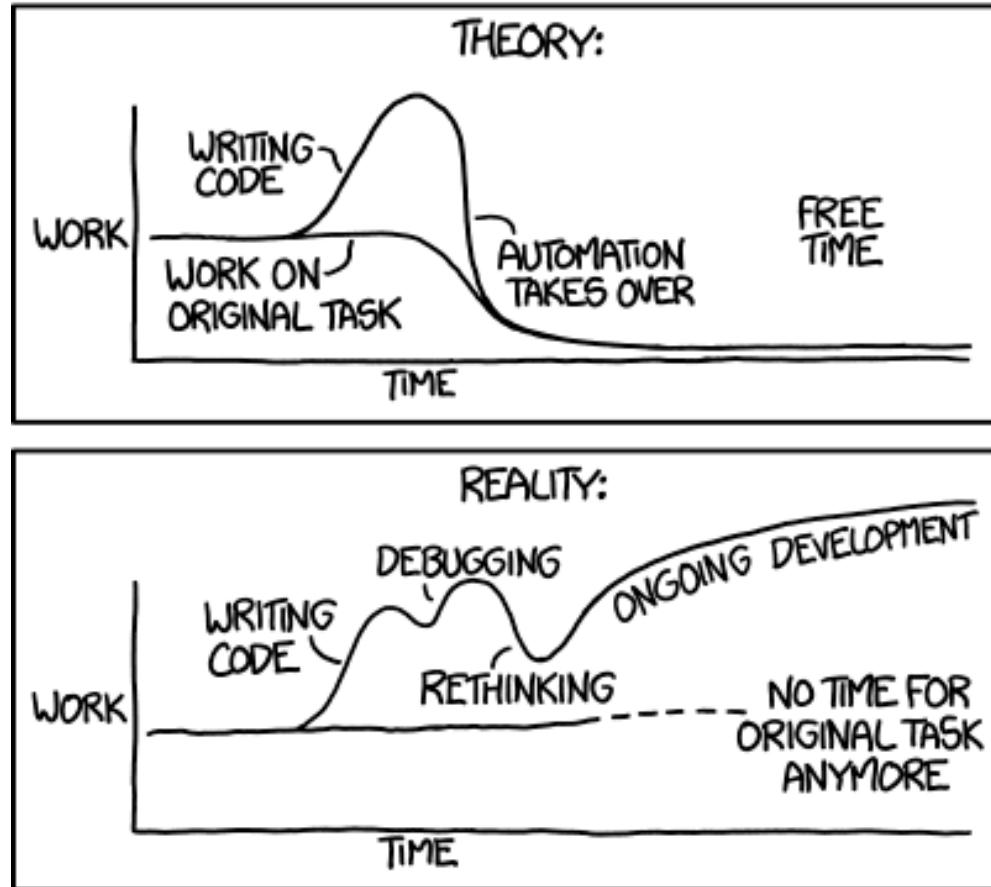


xkcd:2347

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Automation Saves Time?

"I SPEND A LOT OF TIME ON THIS TASK.
I SHOULD WRITE A PROGRAM AUTOMATING IT!"



xkcd:1319

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We've All Done This At Some Point

```
✓ 2 .github/workflows/paper.yml
@@ -22,7 +22,7 @@ jobs:
 22      22      .....paper-path: paper/paper.md
 23      23
 24      24      .....- name: Upload
 25      25      .....uses: actions/upload-artifact@v1
 26      25      .....uses: actions/upload-artifact@v3
 27      26      .....with:
 28      27      .....name: paper
 29      28      .....path: paper/paper.pdf
```

What About Security Updates?

Bump activesupport from 6.0.2.1 to 6.0.3.1

Browse files

Bumps [activesupport](<https://github.com/rails/rails>) from 6.0.2.1 to 6.0.3.1.

- [Release notes](<https://github.com/rails/rails/releases>)
- [Changelog](<https://github.com/rails/rails/blob/v6.0.3.1/activesupport/CHANGELOG.md>)
- [Commits]([rails/rails@v6.0.2.1...v6.0.3.1](#))

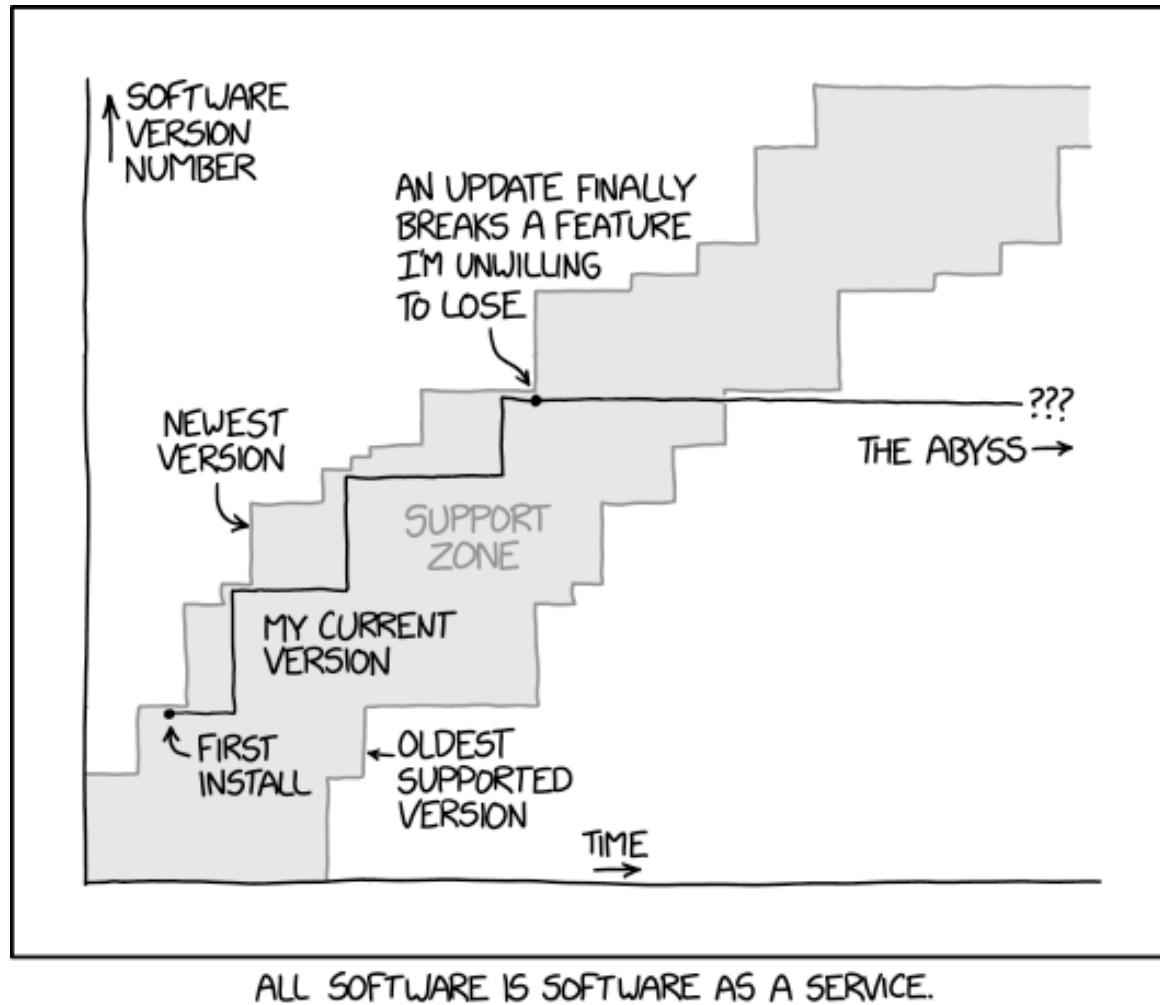
Signed-off-by: dependabot[bot] <support@github.com>

 main (#1)

 **dependabot[bot]** committed on May 26, 2020 Verified

1 parent d0b2bf0 commit ca5853f patch diff

Why Should I Update?



xkcd:2224

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Renovate



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Why Use Renovate?

- Get automated Pull Requests to update your dependencies
 - Reduce noise by running Renovate on a schedule, for example:
 - on weekends
 - outside of working hours
 - each week
 - each month
- Relevant package files are discovered automatically

Why Use Renovate?

- Supports monorepo architectures with workspaces with no extra configuration
- Bot behaviour is customisable via configuration files (config as code)
- Use ESLint-like shared config presets for ease of use and simplifying configuration (JSON format only)
- Lock files are supported and updated in the same commit, including immediately resolving conflicts whenever PRs are merged

Why Use Renovate?

- Get replacement PRs to migrate from a deprecated dependency to the community suggested replacement, works with most managers, see [issue 14149](#) for exceptions
- Open source (installable via npm/Yarn or Docker Hub) so can be self-hosted or used via the Mend Renovate App

Open Source Projects

- <https://github.com/paddyroddy/talks>
- <https://github.com/renovatebot/renovate>
- <https://github.com/astro-informatics/sleplet>
- <https://github.com/microsoft/lage>
- <https://github.com/loopbackio/loopback-next>
- <https://github.com/ampproject/amphtml>
- ...

How to Setup

Install the Application

<https://github.com/apps/renovate>

Patrick J. Roddy (paddyroddy)
Your personal account [Switch settings context](#) [Go to your personal profile](#)

Public profile
Account
Appearance
Accessibility
Notifications

Access
Billing and plans
Emails
Password and authentication
Sessions
SSH and GPG keys
Organizations
Enterprises
Moderation

Code, planning, and automation
Repositories
Codespaces
Packages

Applications

Installed GitHub Apps Authorized GitHub Apps Authorized OAuth Apps

GitHub Apps augment and extend your workflows on GitHub with commercial, open source, and homegrown tools.

	Pull	Configure
	Renovate	Configure
	Review Notebook App	Configure
	Sourcery AI	Configure
	Vercel	Configure

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Example Config

```
1 {
2   $schema: "https://docs.renovatebot.com/renovate-schema.json",
3   extends: [
4     "config:best-practices",
5     "schedule:weekdays",
6     ":assignAndReview(paddyrodgy)",
7     ":automergeBranch",
8     ":automergeDigest",
9     ":automergeMinor",
10    ":automergePatch",
11    ":disableDependencyDashboard",
12    ":enablePreCommit",
13    ":label(renovate)",
14    ":maintainLockFilesMonthly",
15    ":noUnscheduledUpdates",
16  ],
17  commitMessageAction: "Renovate:",
18  "git-submodules": {
19    enabled: true
```


Config is Reusable!

```
1 {
2   $schema: "https://docs.renovatebot.com/renovate-schema.json",
3   extends: [
4     "github>paddyroddy/.github//renovate/default-config.json5",
5     "schedule:monthly",
6   ],
7   "pre-commit": {
8     fileMatch: [
9       "precommit/general/general-hooks.yaml",
10      "precommit/latex/latex-hooks.yaml",
11      "precommit/python/python-hooks.yaml",
12    ],
13  },
14 }
```

Automerging

The [GitHub automerge](#) setting is required

You can allow setting pull requests to merge automatically once all required reviews and status checks have passed.

☒ **Allow auto-merge**

Waits for merge requirements to be met and then merges automatically. [Learn more](#)

It is **highly recommended** to ensure you have tests that will operate on the Renovate branches.

```
1 on:
2   push:
3     branches:
4       - main
5       - "renovate/**"
6   pull_request:
```

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Rulesets - Status Checks

Rulesets / Status Checks

Ruleset Name
Status Checks

Enforcement status
Active

Bypass list
+ Add bypass

Bypass list is empty
Exempt roles, teams, or apps from this ruleset by adding them to the bypass list

Target branches
+ Add target

Default
release

Applies to 2 targets including `main` , and `release` .

☒ **Restrict deletions**
Only allow users with bypass permissions to delete matching refs.

☐ **Require linear history**
Prevent merge commits from being pushed to matching refs.

☐ **Require deployments to succeed**
Choose which environments must be successfully deployed to before refs can be pushed into a ref that matches this rule.

☐ **Require signed commits**
Commits pushed to matching refs must have verified signatures.

☐ **Require a pull request before merging**
Require all commits be made to a non-target branch and submitted via a pull request before they can be merged.

☒ **Require status checks to pass**
Choose which status checks must pass before the ref is updated. When enabled, commits must first be pushed to another ref where the checks pass.

Additional settings

☒ **Require branches to be up to date before merging**
Whether pull requests targeting a matching branch must be tested with the latest code. This setting will not take effect unless at least one status check is enabled.

Enter the name of a status check

Status checks that are required.

linting	GitHub Actions	
documentation	GitHub Actions	

☒ **Block force pushes**
Prevent users with push access from force pushing to refs.

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Rulesets - Pull Requests

Rulesets / Pull Requests

Ruleset Name

Pull Requests

Enforcement status

Active

Bypass list

+ Add bypass

Renovate App Always

Target branches

+ Add target

Default

release

Applies to 2 targets including `main` , and `release` .

Commits pushed to matching refs must have verified signatures.

☒ **Require a pull request before merging**
Require all commits be made to a non-target branch and submitted via a pull request before they can be merged.

Additional settings

Required approvals

1

The number of approving reviews that are required before a pull request can be merged.

☐ **Dismiss stale pull request approvals when new commits are pushed**
New, reviewable commits pushed will dismiss previous pull request review approvals.

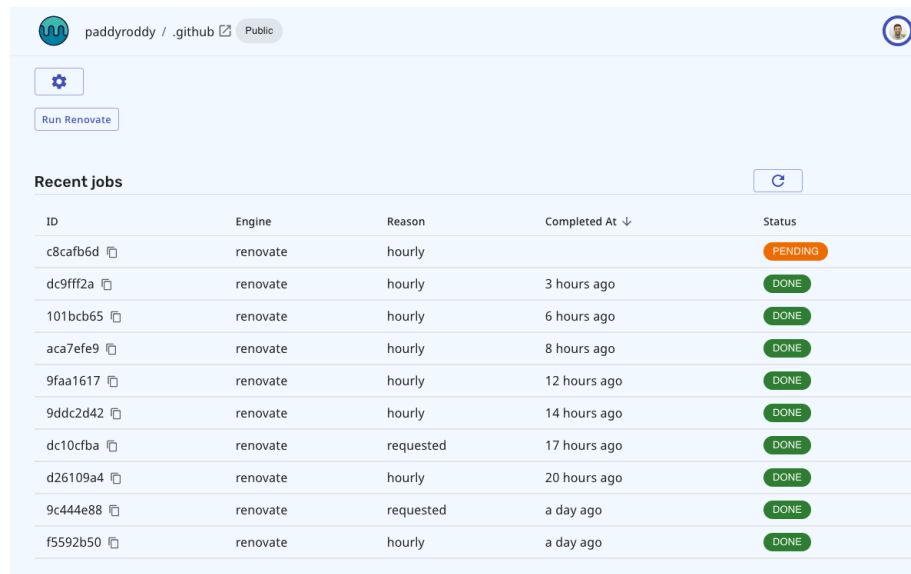
☐ **Require review from Code Owners**
Require an approving review in pull requests that modify files that have a designated code owner.

☐ **Require approval of the most recent reviewable push**
Whether the most recent reviewable push must be approved by someone other than the person who pushed it.

☐ **Require conversation resolution before merging**
All conversations on code must be resolved before a pull request can be merged.

☐ **Require status checks to pass**
Choose which status checks must pass before the ref is updated. When enabled, commits must first be pushed to another ref

Monitoring



The screenshot shows the Renovate dashboard for the repository paddyroddy/.github. It includes a 'Run Renovate' button and a table of recent jobs. The table has columns for ID, Engine, Reason, Completed At, and Status. The first job is in a 'PENDING' state, while the others are 'DONE'.

ID	Engine	Reason	Completed At ↓	Status
c8cafb6d	renovate	hourly		PENDING
dc9fff2a	renovate	hourly	3 hours ago	DONE
101bcb65	renovate	hourly	6 hours ago	DONE
aca7efe9	renovate	hourly	8 hours ago	DONE
9faa1617	renovate	hourly	12 hours ago	DONE
9ddc2d42	renovate	hourly	14 hours ago	DONE
dc10cfba	renovate	requested	17 hours ago	DONE
d26109a4	renovate	hourly	20 hours ago	DONE
9c444e88	renovate	requested	a day ago	DONE
f5592b50	renovate	hourly	a day ago	DONE

Detected Dependencies

▼ pre-commit

▼ .pre-commit-config.yaml

- paddyroddy/.github v0.75.0
- renovatebot/pre-commit-hooks 37.44.0 → [Updates: 37.57.2]

▼ precommit/general/general-hooks.yml

- codespell-project/codespell v2.2.6
- Lucas-C/pre-commit-hooks v1.5.4
- python-jsonschema/check-jsonschema 0.27.1
- pre-commit/mirrors-prettier v3.1.0
- pre-commit/pre-commit-hooks v4.5.0

▼ precommit/latex/latex-hooks.yml

- cmhughes/latexindent.pl V3.19

▼ precommit/python/python-hooks.yml

- adamchainz/blacken-docs 1.16.0
- pre-commit/mirrors-mypy v1.7.0
- astral-sh/ruff-pre-commit v0.1.5
- pappasam/toml-sort v0.23.1

▼ github-actions

▼ .github/workflows/licence.yml

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Conclusions

Summary

- Renovate is massively flexible
- Maintainers respond incredibly quickly
- Renovate is widely used
- If you think it can be automated, it probably can
- Be careful with CI use in private projects (ask MIRSG 🙄)
- Embrace automerging (if you like inbox zero)
- Renovate **renovates** itself very frequently
- There's always more to learn!

Demo Time

<https://developer.mend.io>



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