DevOps 2.0

The Path to Continuous Merge & Happy Developers

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Agenda

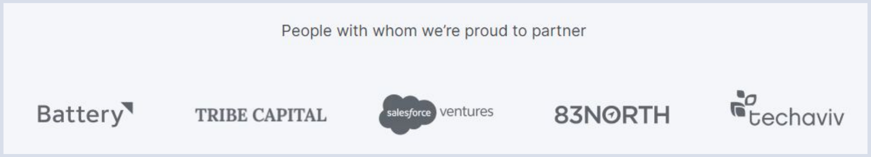
Background

What is Continuous Merge?

... and how can I use CM
to get my PRs merged faster?

LinearB

The Software Delivery Management Platform for Engineering Leaders



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DRATA BigID Appcues TOMTOM EQUINIX

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A Brief History of Software Development

Waterfall

Giant PRD and you build what your manager wants
Release Cycle - 9 - 24 months

Agile

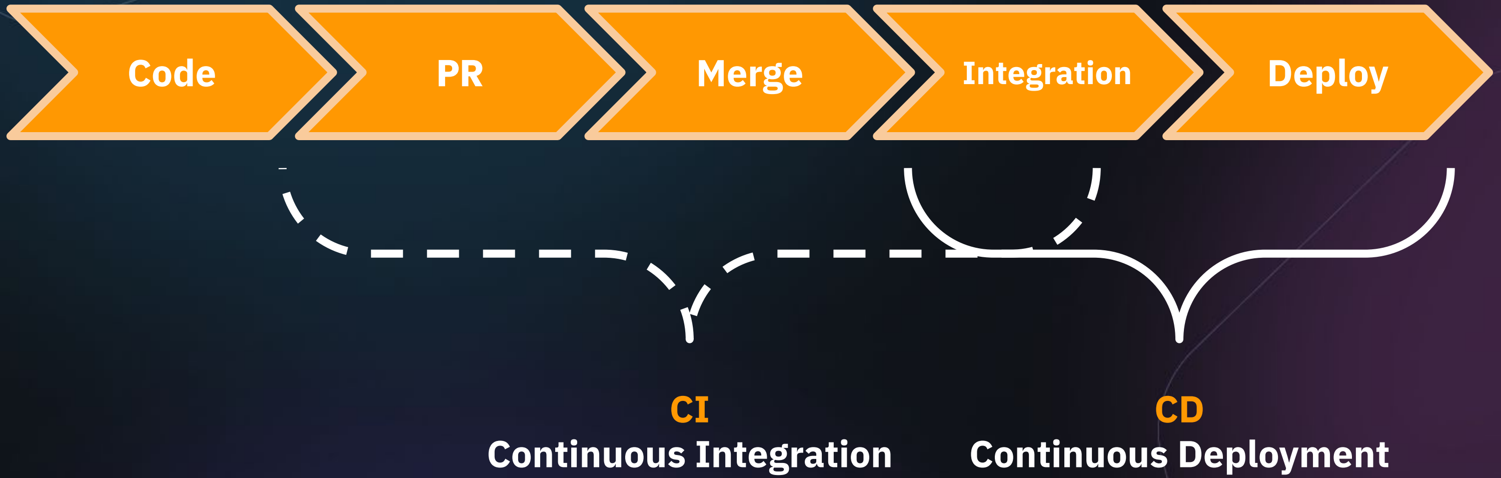
Sprints! Story Points!
Standups!
5000 arguments on what is Agile and what is not.
Toss it over: its an ops problem, works for me.

DevOps

I need to run what I write?
Pull Request for code review to see if its ready for testing.

Unit tests, user tests, tests for tests and more tests. Tests pass? Great! Deploy or Deliver.

CI / CD approach



Code

PR

Merge

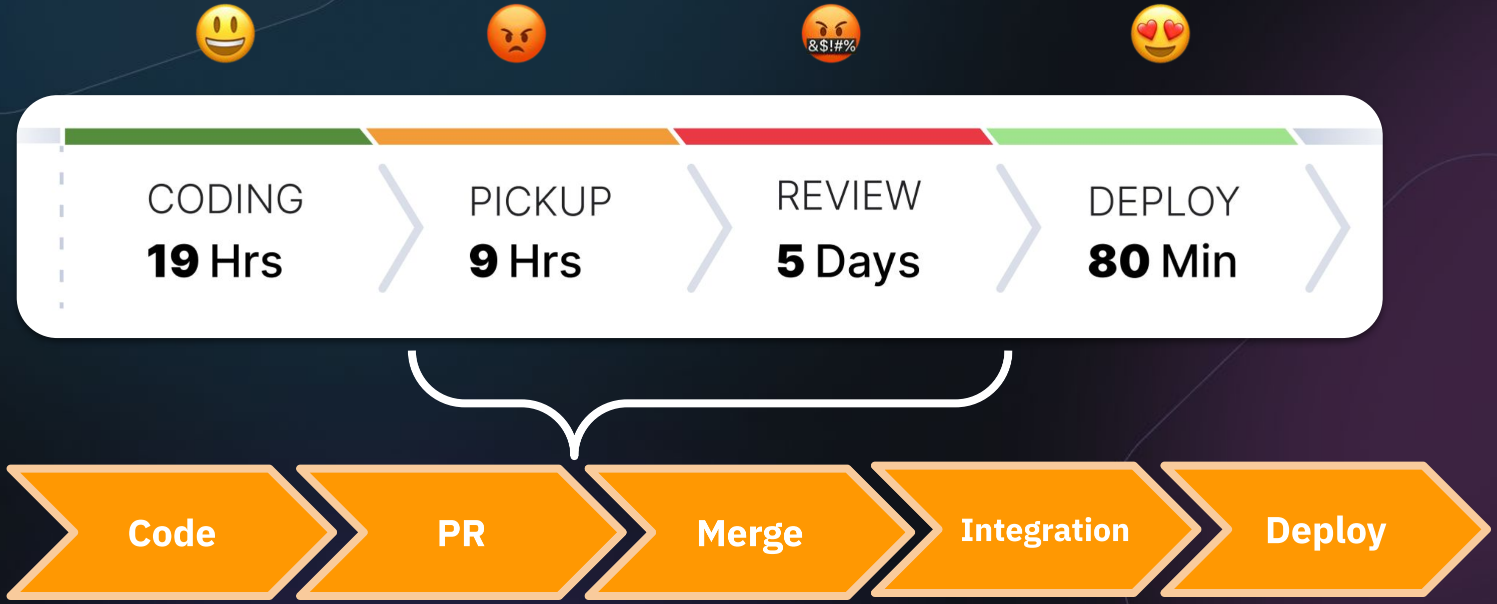
Integration

Deploy

CI
Continuous Integration

CD
Continuous Deployment

Code is getting **stuck** here



😃	😡	🤬	😍
CODING	PICKUP	REVIEW	DEPLOY
19 Hrs	**9** Hrs	**5** Days	**80** Min

Code

PR

Merge

Integration

Deploy

LinearB Labs

Pull Request Research

~1 Million	3.9M	25.6K
Pull Requests	Reviews	Developers

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Pull Requests are **mostly idle**

50% of PRs are idle
50.4% of lifespan

33% of PRs are idle
77.8% of lifespan

No Movement == No Merging

Delays cause... **more delays!**

For PRs that span more than one day:

50.1% of PRs are idle

81.3% of lifespan

Get your PR picked up **within 1 hour**
to give it a chance to be a **“Same Day PR”**

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So, what's **missing?**

Knowledge
for developers

Who should review this?

What's required to get this merged?

What's the best way to push this forward?

Context
for Reviewers

What kind of change?

Should I look at this? Now?

How much effort?

Is it safe? What's the risk?

Flexibility / Automation
for the team

Can we reduce toil?

Must we review all PRs in the same way?

How do we enforce best practices?

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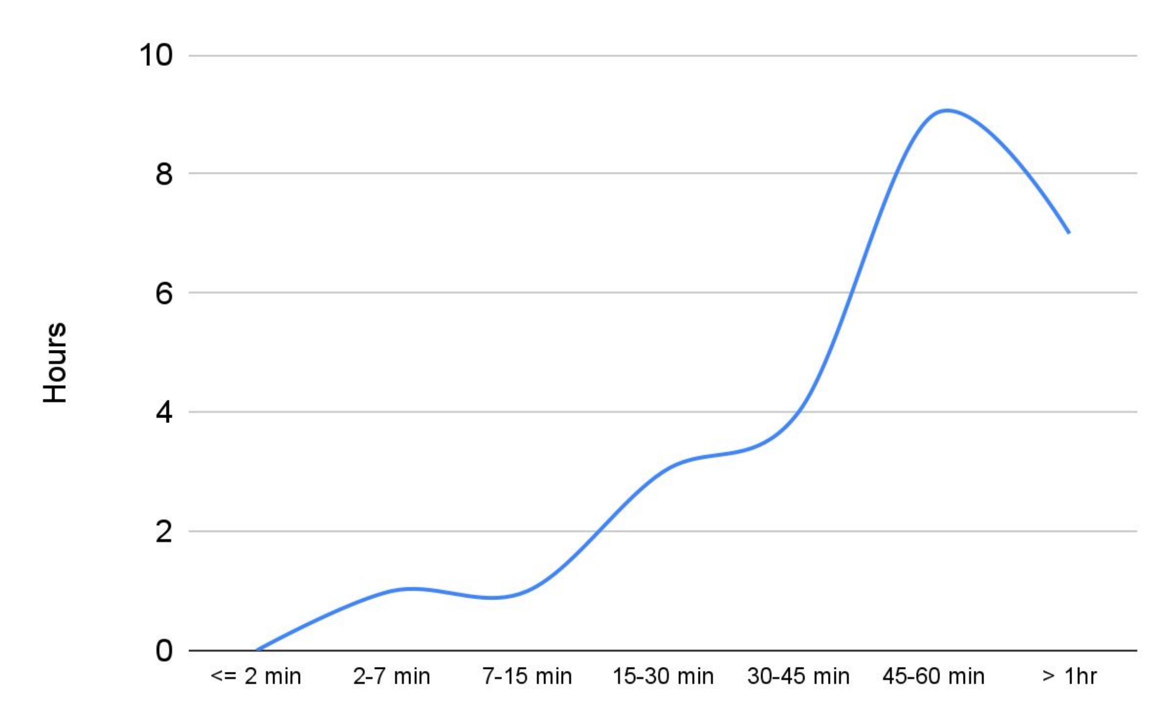
Estimated Review Time



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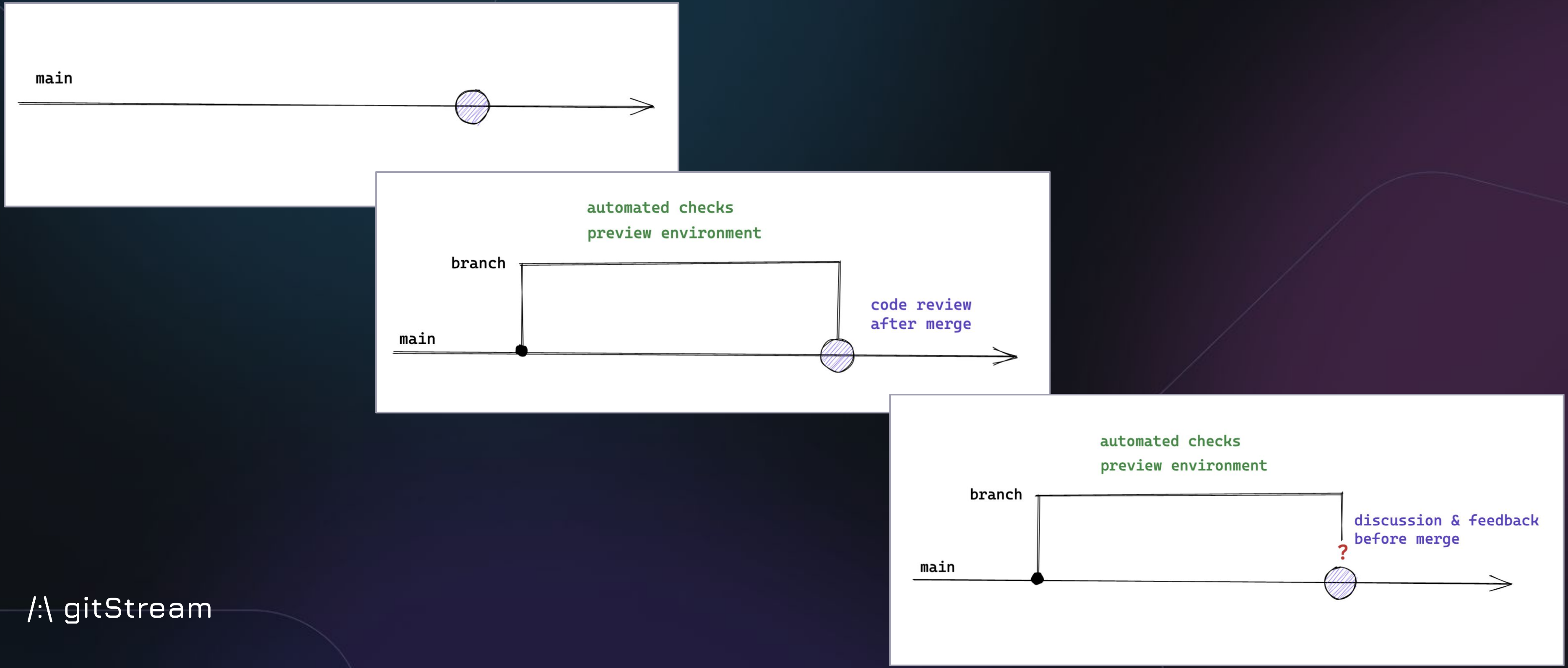
Ship / Show / Ask

(Rouan Wilsenach)



Thinking about a Solution

Open Discussion

Required Capabilities?

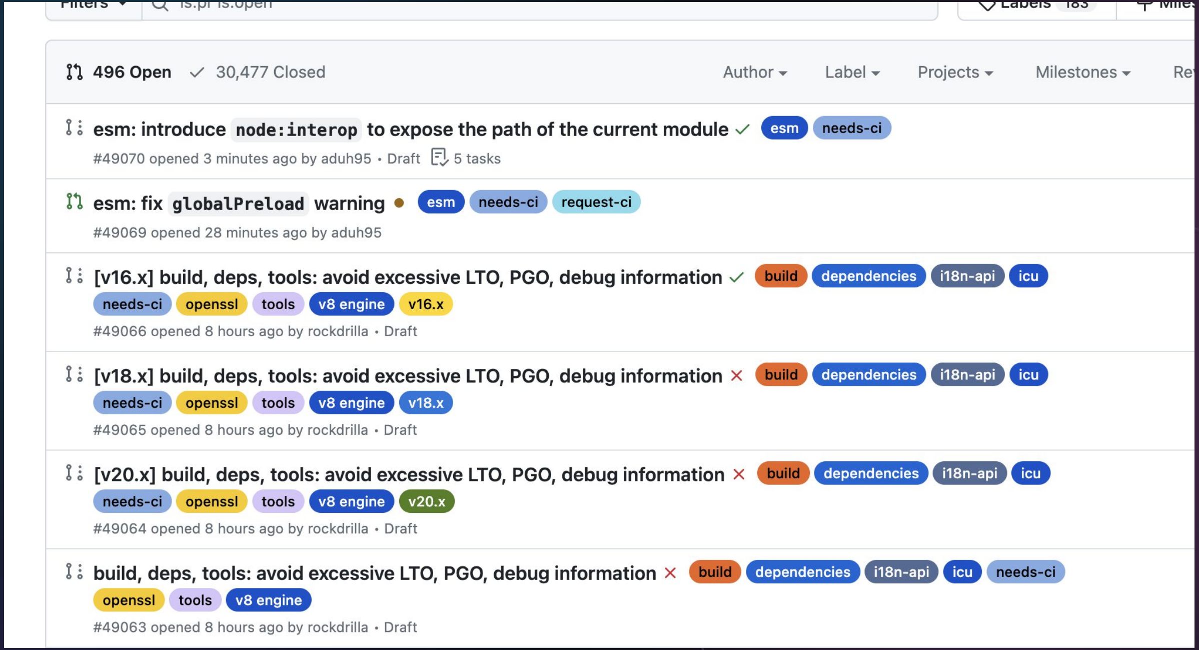
How should this run?

What to avoid?

Building Blocks for a Solution

Context

- PR Labels
- Comments
- PR title + description
- Badges



Filters ▾ is:pr is:open Labels 183 Miles

496 Open ✓ 30,477 Closed Author ▾ Label ▾ Projects ▾ Milestones ▾ Re

esm: introduce `node:interop` to expose the path of the current module ✓ esm needs-ci
#49070 opened 3 minutes ago by aduh95 • Draft 5 tasks

esm: fix `globalPreload` warning ● esm needs-ci request-ci
#49069 opened 28 minutes ago by aduh95

[v16.x] build, deps, tools: avoid excessive LTO, PGO, debug information ✓ build dependencies i18n-api icu needs-ci openssl tools v8 engine v16.x
#49066 opened 8 hours ago by rockdrilla • Draft

[v18.x] build, deps, tools: avoid excessive LTO, PGO, debug information ✕ build dependencies i18n-api icu needs-ci openssl tools v8 engine v18.x
#49065 opened 8 hours ago by rockdrilla • Draft

[v20.x] build, deps, tools: avoid excessive LTO, PGO, debug information ✕ build dependencies i18n-api icu needs-ci openssl tools v8 engine v20.x
#49064 opened 8 hours ago by rockdrilla • Draft

build, deps, tools: avoid excessive LTO, PGO, debug information ✕ build dependencies i18n-api icu needs-ci openssl tools v8 engine
#49063 opened 8 hours ago by rockdrilla • Draft

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Building Blocks for a Solution

Reviewers

- Find a (the best) reviewer
- Add a reviewer (e.g. security team; best reviewer)
  - optional / required
- Change number of required reviewers (2->1, 1->0 etc.)

Building Blocks for a Solution

Actions on PRs

- Reject (request changes) + comment
- Approve
- Merge
- Close

Advanced

Integrations

- Trigger external systems (e.g. Slack)
  - github actions!
- Play nice & leverage pipeline tools
  - Tests, Coverage, Security etc.

Scale

- Org, group and per-repo rules

Putting it all Together

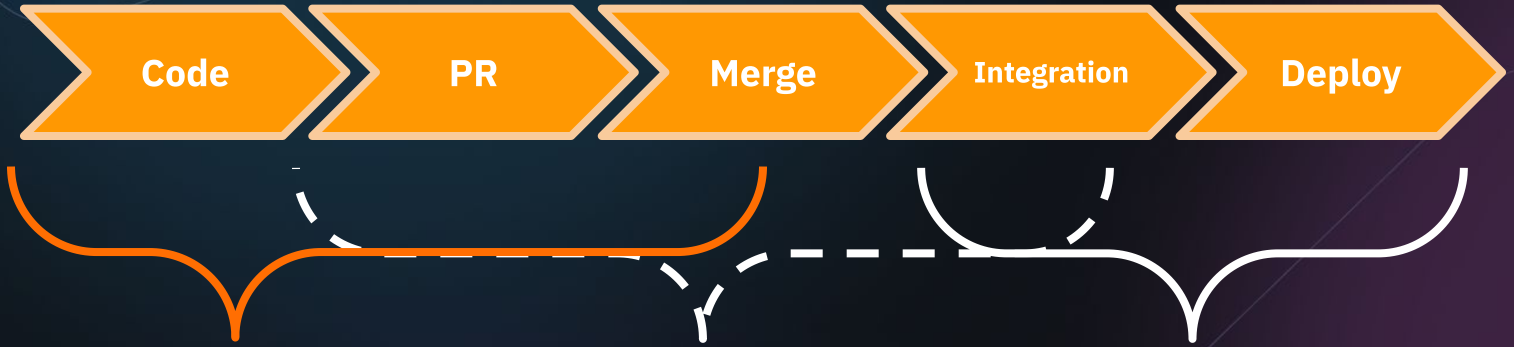
Run mode

- Run in pipeline (e.g. github actions)
- Rerun on changes in PR/MR (push, comment, etc.)

Dev Friendly - Solve our problems using code

- Programmable rule file inside the repo
    - Everyone can see the rules, understand how it works, collaborate
    - Versioned
    - Programmable logic

CM / CI / CD approach



CM
Continuous Merge

CI
Continuous Integration

CD
Continuous Deployment

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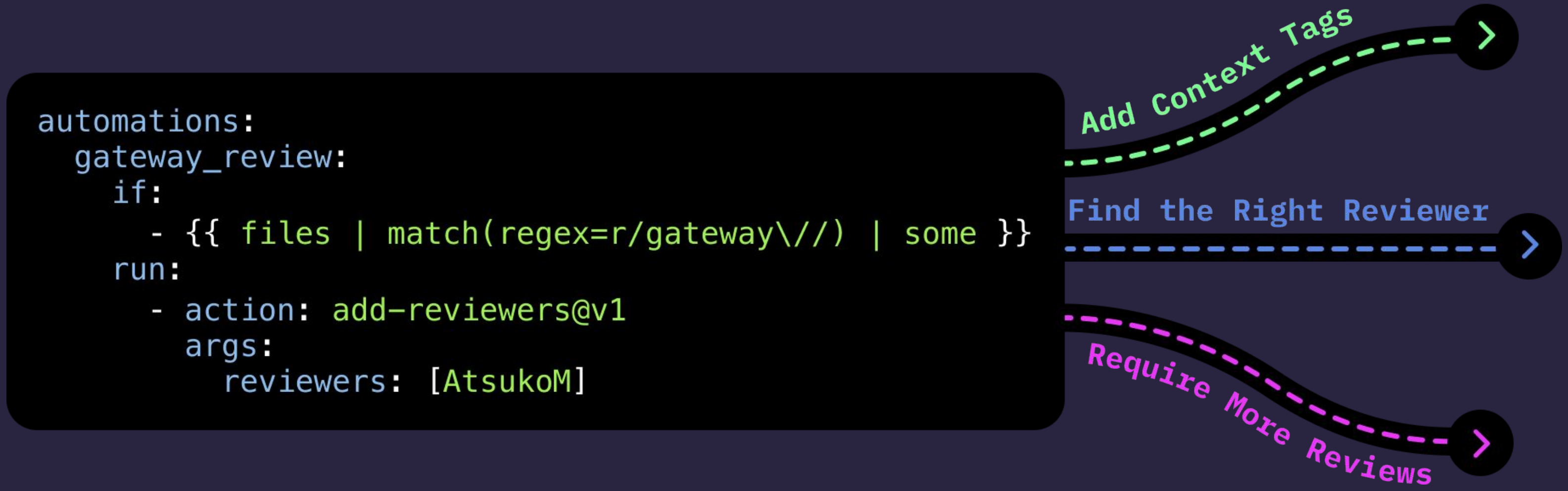
Multiple PR Review Paths

Code-as-policy to classify & route pull request



```yaml
automations:
  gateway_review:
    if:
      - {{ files | match(regex=r/gateway\//) | some }}
    run:
      - action: add-reviewers@v1
        args:
          reviewers: [AtsukoM]
```

gitStream is free!

https://gitstream.cm

Thank You!

Q&A

Learn more about
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