Using GitHub Actions with GerritHub

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CUE + GerritHub + GitHub
Why GerritHub?

- CUE project originally hosted in Google Gerrit instance
- Mirrored to GitHub
- Clean fork in June 2021
- Wanted to keep Gerrit as source of truth
Basic architecture

1. Clone
2. Import repo
3. Mirror
4. Submit PR
5. Submit CL

/cue-lang/cue

GerritForge

CUE

Google
Why GitHub (Actions)?

- GitHub widely used and understood
- Familiarity with majority of users and contributors
- Actions probably the best multi-platform CI for open source
Demo
Basic CI Sequence Diagram

1. `git codereview mail`
   - `/cue-lang/cue`

2. `cueckoo runtrybot`
   - `/cue-lang/cue`

3. `git push ...`

4. `<update CL status>`
GitHub actions workflow sequence

1. `cueckoo runtrybot`
2. `<repository_dispatch>`
3. `repository_dispatch.yml`
   - `git push ...`
4. `<push (branch)>`
5. `test.yml`
   - `go test ./...`
   - `curl gerrithub.io/..`
Demo Progress
Considerations

● Security
  ○ Bot account used for initial import
  ○ Use bot account for all CI work post-trigger

● Ease of maintenance
  ○ CUE to specify workflows
  ○ Restrict logic to GitHub Actions workflows (not cueckoo client)
What is CUE?

- Open source language
- Rich set of APIs and tooling
- Define, generate, and validate all kinds of data:
  - Configuration
  - APIs
  - Database schemas
  - Code
  - ...

Summary

- GerritHub as source-of-truth for open source projects
- GitHub Actions integration
- CUE as a source-of-truth for workflow simplifies workflow specification and maintenance
CUE Project
https://cuelang.org/

GerritHub CUE Repo
https://review.gerrithub.io/admin/repos/cue-lang/cue

GitHub CUE Repo
https://github.com/cue-lang/cue

workflows.cue (source of truth for GitHub Actions workflows)
https://github.com/cue-lang/cue/blob/master/internal/ci/workflows.cue