Pipeline ETA: 3… 2… Tomorrow?

Let’s Fix That!

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Context, always context

Slow software is not the best example for us

Principles

- Make things simpler
- Make a sustainable fast feedback loop of client feedback

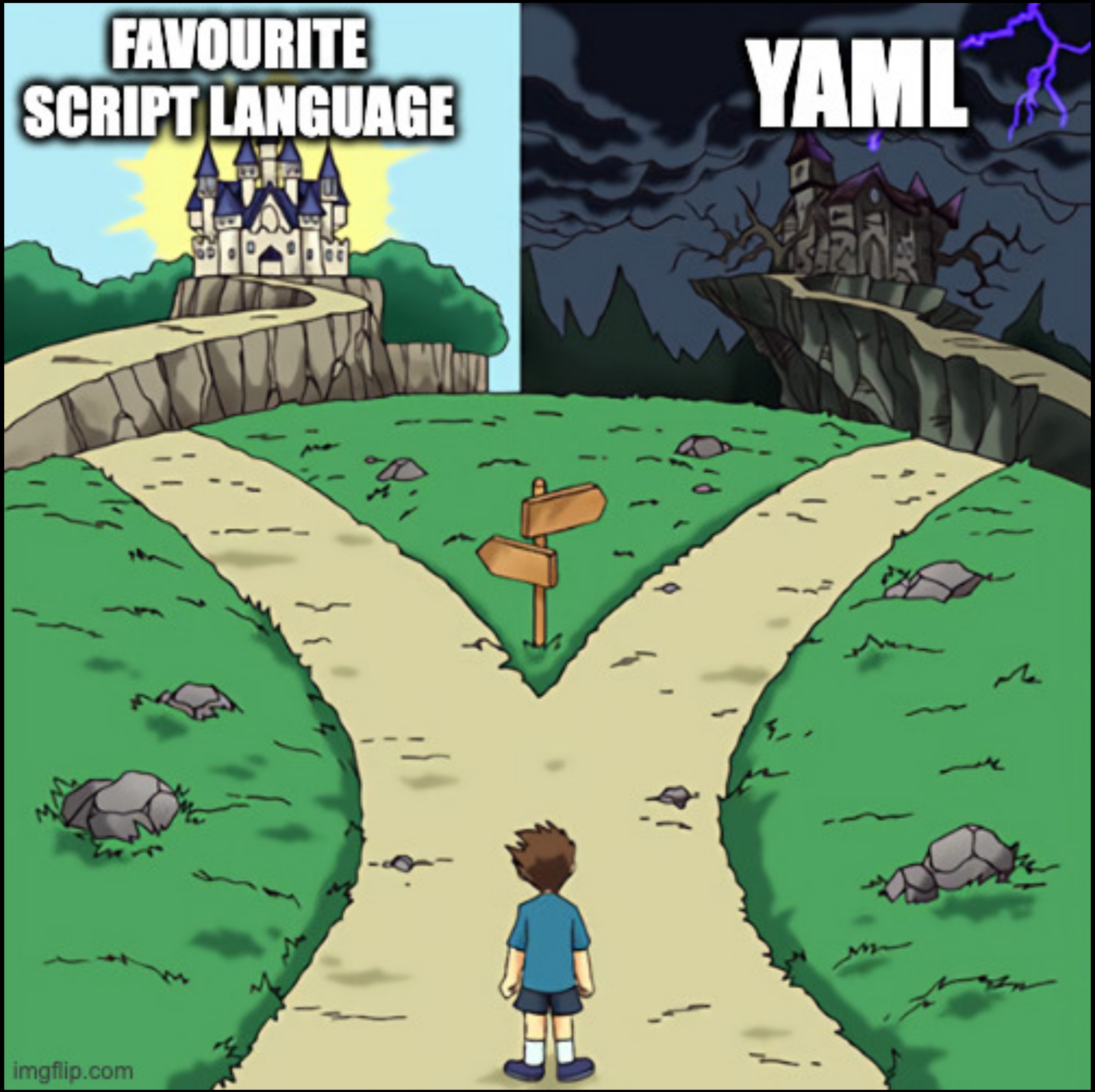
Agenda

- Writing and supporting pipelines
- Speeding up long regression tests
- Continuous Integration: making PRs flow smoothly

1. Writing and supporting pipelines

We write YAML in pipelines.

Who loves YAML in pipelines?


FAVOURITE SCRIPT LANGUAGE
YAML
imgflip.com

Runable things outside

Makefile:

```
fmt:
    ./shell/reformat-the-code.sh
line:
    ./shell/lint-the-code.sh
```

```
Run:
make fmt && make lint
```

Still in YAML

- Minimal setup for service connections in YAML (docker registries, k8s):
- Caching

Build job:

```
jobs:
  build:
    steps:
    - uses: actions/checkout@v4
    - # ... caching
    - run: make lint
    - run: make test
    - name: Build image
      run: make build tag=${{ github.run_id }}
      outputs:
        build_id: ${{ github.run_id }}
```

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```

Deploy job:

```
jobs:
  deploy:
    needs: build
    steps:
    - # ... connections
    - name: Deploy dev
      run: make deploy e=dev tag=${{ needs.build.outputs.build_id }}
```

2. Speeding up long regression tests

- Longer pipelines ⇒
    - Bigger batches of code changes ⇒
        - Longer feedback loop
        - Bigger pull request to review

Speeding up long regression tests

- Test only things that give us quality
- Speed up the code

Speeding up long regression tests

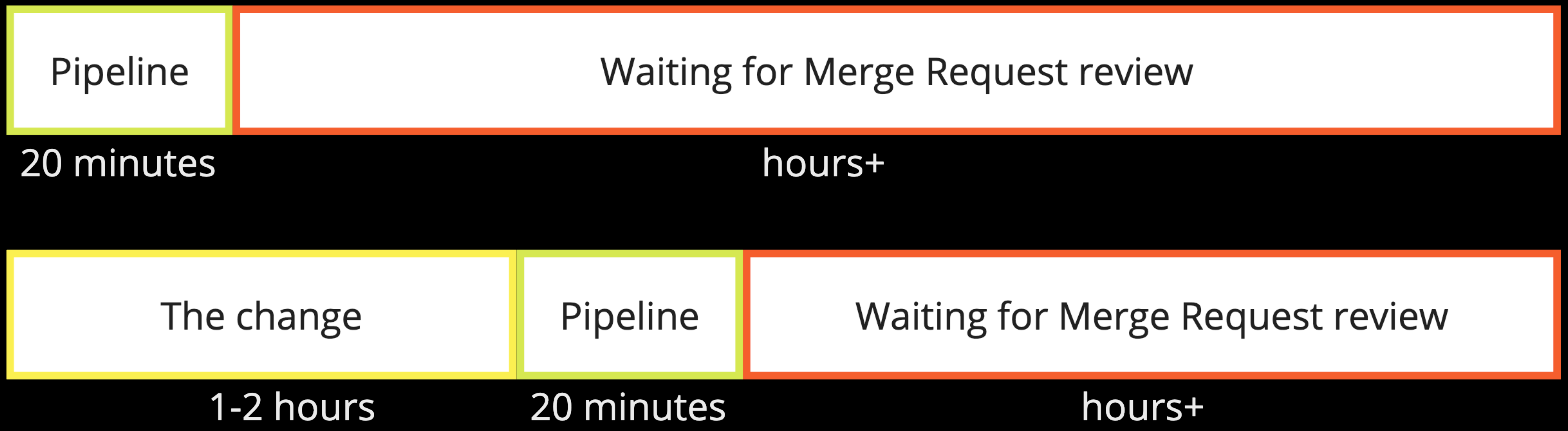
- Test only things that give us quality
- Speed up the code
- Parallelize tests (1 -> 2 -> 4 -> 8 jobs)
- Trigger only tests affected by the change

```
git diff --name-only origin/main
Processing/Documents-Italy
Processing/Documents-Germany
```

run only Documents-Italy and Documents-Germany, not e.g. Documents-UK

3. Continuous integration

- Continuous integration is the practice of integrating source code *changes frequently* while ensuring it's in a workable state



Pipeline | Waiting for Merge Request review

20 minutes | hours+

The change | Pipeline | Waiting for Merge Request review

1-2 hours | 20 minutes | hours+

Continuous integration

Possible practices to try

- Async non-blocking post-commit review
- Sync code-review for bigger changes

Continuous integration

Possible practices to try

- Async non-blocking post-commit review
- Sync code-review for bigger changes
- Design review before first line of code
- Edge cases review with QA or team

Wrap-up: principles

- Make things simpler
  - Testable, runnable locally
- Make a sustainable fast feedback loop of client feedback
  - Local optimization may hit us. We need global ones

Contacts

SpeakerDeck.com Presentation

Alexander Ptakhin contacts