FROM JENKINS TO GITHUB ACTIONS

LESSONS, PROBLEMS, OUTLOOK

$ whoami

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FOREMAN?!

~~"Foreman is a complete lifecycle management tool for physical and virtual servers."~~

- ~50 Foreman plugins
- ~25 Foreman Proxy modules/providers
- ~20 Hammer plugins
- LOTS OF TESTS!
- foreman-plugin-overview

CI LANDSCAPE IN 2023

- Jenkins with 142 jobs (+ second with ~30)
- "GitHub Pull Request Builder" plugin
- Access to `theforeman` and `Katello` organizations
- Others (`ATIX-AG`, `betadots`, `dm-drogeriemarkt`, …) need own solutions
- Big migrations planned: Ruby 3, Webpack 5

CI LANDSCAPE IN ~~2023~~ 2015

```
commit 22d2bc028210b516894a20c04c638c942e1f9c7c
Author: Dominic Cleal <dcleal@redhat.com>
Date:     Tue Jun 2 13:14:27 2015 +0100

    Add test_plugin_* template and move bootdisk
```

- WAT?!
- Allow use of Jenkinsfiles #1683 - 2021
- Several plugins were already using self-made GHA workflows

CI LANDSCAPE IN 2024

- Jenkins with 90 jobs
- Second one untouched
- GitHub Actions used in 35 (Foreman plugin) repositories
- more tools = better?

CI LANDSCAPE IN 2025

- Jenkins with 80 jobs
- GitHub Actions used in 56 (plugin) repositories

@theforeman/actions

Shared workflows for Foreman-related things

- foreman_plugin.yml
- foreman_plugin_js.yml
- release-gem.yml
- rubocop.yml
- smart_proxy_plugin.yml
- test-gem.yml

`foreman_plugin.yml`

- Every plugin should use that!
- Automatically detects the right Ruby/ NodeJS/PostgreSQL versions
- Executes `test:${plugin_name}`, `db:seed`, `plugin:assets:precompile`
- Additionally executes plugin migrations *after* full Foreman install

matrix.json

```json
{
  "postgresql": ["13"],
  "ruby": ["2.7", "3.0"],
  "node": ["18"]
}
```

- Consumed by `theforeman/gha-matrix-builder`
- Makes it easy to adjust many consumers in one go

foreman_plugin.yml

```yaml
test:
  name: Ruby
  uses: theforeman/actions/.github/workflows/
        foreman_plugin.yml@v0
  with:
    plugin: MY_PLUGIN
```

`foreman_plugin.yml`

Testing against multiple Foreman versions

```yaml
test:
  strategy:
    matrix:
      foreman:
        - 3.13-stable
        - develop
  uses: theforeman/actions/.github/workflows/
        foreman_plugin.yml@v0
  with:
    plugin: MY_PLUGIN
    foreman_version: ${{ matrix.foreman }}
```

Or configuring your stable branches to use a stable Foreman branch!

`foreman_plugin.yml`

Testing a plugin against a PR for Foreman

(Ruby or Rails upgrades)

```yaml
test:
  name: Ruby
  uses: theforeman/actions/.github/workflows/
        foreman_plugin.yml@v0
  with:
    plugin: MY_PLUGIN
    foreman_version: refs/pull/1234/head
```

CI THE CI

This was almost impossible in Jenkins

```yaml
on:
  pull_request:
    paths:
      - '.github/workflows/foreman_plugin.yml'
```

```yaml
jobs:
  test:
    name: Ruby
    uses: ./.github/workflows/foreman_plugin.yml
    with:
      plugin: foreman-tasks
      plugin_repository: theforeman/foreman-tasks
```

🤯

`foreman_plugin_js.yml`

- Every plugin with JS tests should use that!
- Automatically detects the right Ruby/NodeJS versions
- Executes `npm lint`, `npm test`
- Can do all the nice tricks `foreman_plugin.yml` can

`test-gem.yml`

- Can be used by any Ruby gem
- So Hammer and Foreman Proxy plugins
- Detects Ruby versions from the gemspec

`smart_proxy_plugin.yml`

- Every Smart Proxy plugin should use that!
- Verifies Ruby version support
- Calls `test-gem.yml`

`rubocop.yml`

- Runs Rubocop
- Often used as a pre-requisite for main tests

`gem-release.yml`

- Builds the gem
- Pushes it to Rubygems.org
- Needs a secret to be defined in your repository settings

CI LANDSCAPE IN 2024
THE BAD THINGS

- No more [test katello] comments
- Only people with write permission can re-trigger tests
- Test result reporting is different to Jenkins
  - GH supports annotations
  - Shown in the file tab of a PR
  - Not all steps report that correctly yet

CI LANDSCAPE IN 2025

- Get rid of second Jenkins
- Standardize running select core tests for Plugins
- ~~Standardize Foreman Proxy plugin tests~~
- Standardize Hammer plugin tests

CI LANDSCAPE IN 2025

- Get rid of main Jenkins?
    - GH is bad for storing artifacts
    - GH is bad for time-triggered jobs
    - = We'd like to, but probably not

CI LANDSCAPE IN 2025

- @theforeman/actions for GitLab?
  - ATIX uses GitLab internally
  - Red Hat uses GitLab internally

THANKS!

LINKS

- foreman-plugin-overview
- @theforeman/actions
- theforeman/gha-matrix-builder
- theforeman/gha-matrix-ruby-verifier