Openshift on Azure
CI overview

Michalis Kargakis
@kargakis
Software Engineer, Red Hat

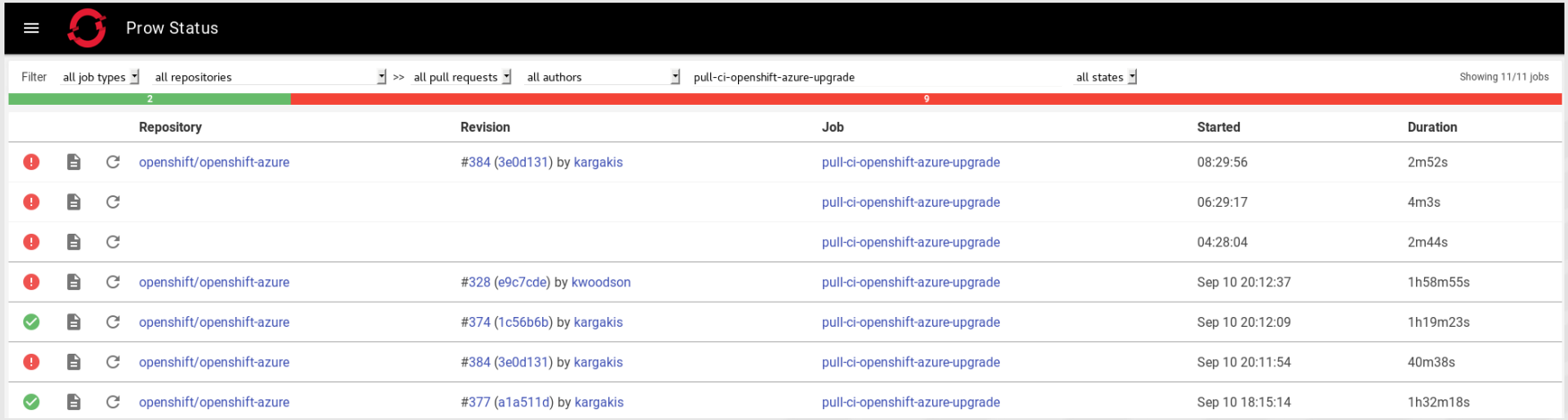
Agenda

- Infrastructure (Prow, Gubernator, ci-operator)
- Tests (install, upgrade, unit, verify, ...)
- Release artifacts (plugin code, sync, SRE tooling)

Infrastructure (Prow)

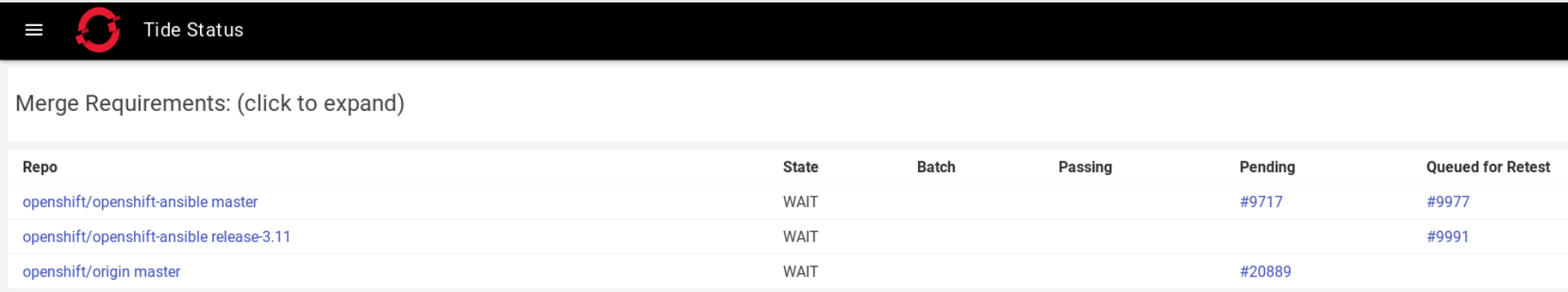
- A set of microservices written in Go
- Manage every Github interaction. Automated test runs. Automated pull request merges.
- Extend the Kubernetes API to hold state about test runs (ProwJobs)
- Support running test workloads either in Pods or in Jenkins

Infrastructure (Prow)



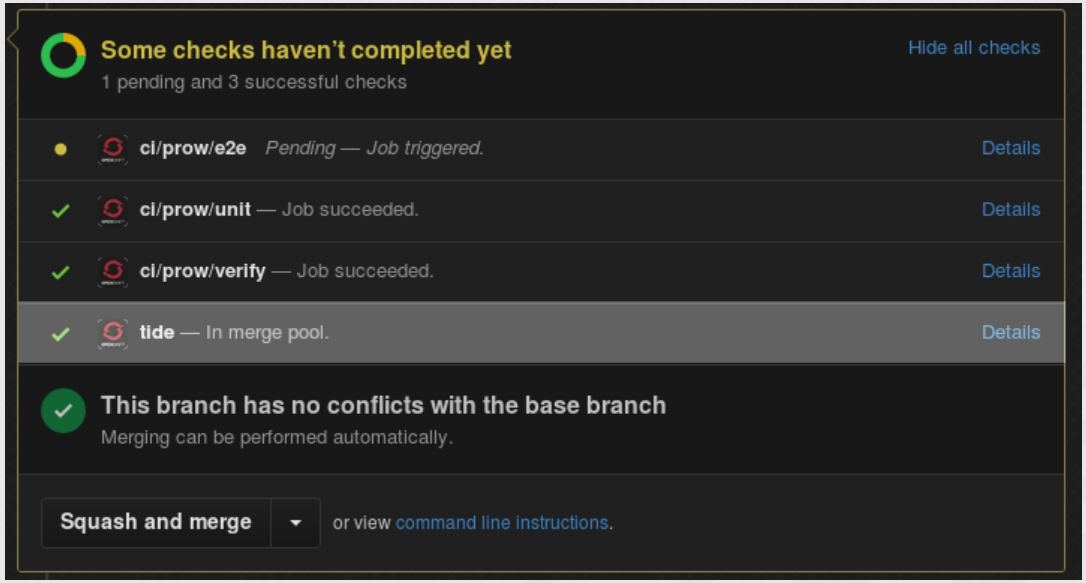
OPENSHIFT by Red Hat

Infrastructure (Prow)



OPENSHIFT by Red Hat

Infrastructure (Prow)



Infrastructure (Prow)

- Co-developed in kubernetes/test-infra

  https://github.com/kubernetes/test-infra/blob/master/prow

- Openshift deployment running in CI cluster

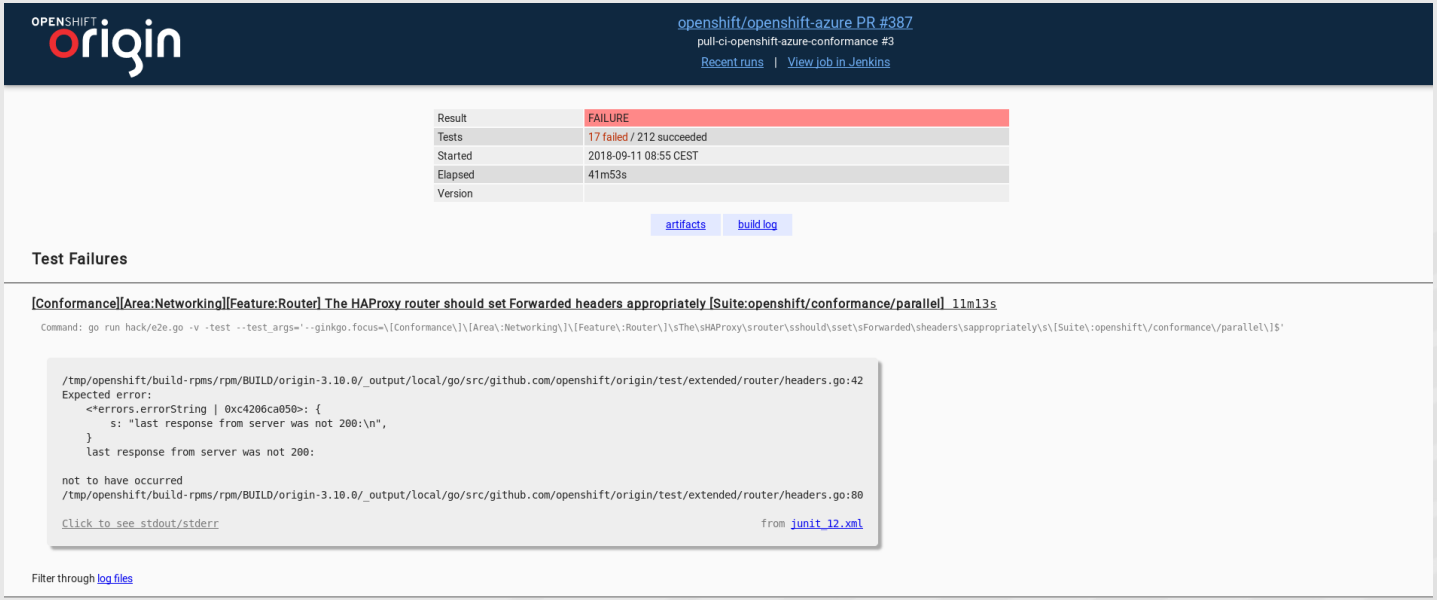
  Prow console: https://deck-ci.svc.ci.openshift.org/

  CI cluster: https://api.ci.openshift.org/

Detailed Prow overview here

Infrastructure (Gubernator)

Expose test artifacts under a user-friendly view*



OPENSHIFT by Red Hat

Infrastructure (Gubernator)

- Co-developed in kubernetes/test-infra

  https://github.com/kubernetes/test-infra/tree/master/gubernator

- Openshift deployment running on GCE

  https://openshift-gce-devel.appspot.com

Infrastructure (ci-operator)

- Extend Prow with the ability to run test pipelines
- Provide a user friendly travis-like API to configure jobs
- Run in short-lived pods orchestrated by Prow, create temporary namespace, run pipeline steps, cleanup
- Reuse successful pipeline steps from a previous test run for the same commit

Infrastructure (ci-operator)

Docs:

https://github.com/openshift/ci-operator/blob/master/ONBOARD.md

https://github.com/openshift/ci-operator/blob/master/CONFIGURATION.md

https://github.com/openshift/ci-operator/blob/master/TEMPLATES.md

Tests

We run tests during different points of the development:

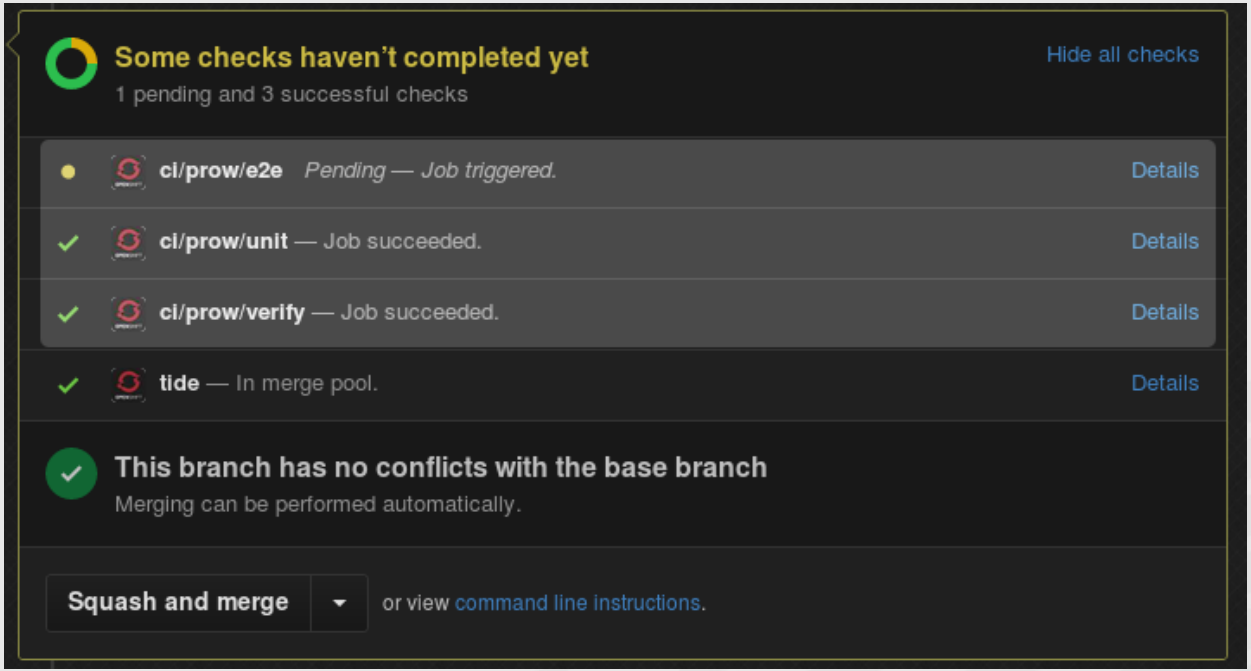
- On every pull request (presubmits)
- On every commit in master (postsubmits)
- Periodically (periodics)

Tests

We also run different kinds of tests:

- Unit tests
- Verification tests
- E2E tests:
  - Install + osa-specific e2e
  - Install + origin conformance
  - Install + upgrade

Tests


Some checks haven't completed yet
1 pending and 3 successful checks
Hide all checks
ci/prow/e2e Pending — Job triggered.
Details
ci/prow/unit — Job succeeded.
Details
ci/prow/verify — Job succeeded.
Details
tide — In merge pool.
Details
This branch has no conflicts with the base branch
Merging can be performed automatically.
Squash and merge
or view command line instructions.

Tests

In the near future we want:

- Scale up/down tests
- Increase coverage in OSA-specific tests
- Improve success ratio of the Origin conformance suite

Longer term:

- Regression tests
- Performance tests

Tests

Configuration stored in openshift/release

- Job specs
  https://github.com/openshift/release/tree/master/ci-operator/jobs/openshift/openshift-azure
- Ci-operator config
  https://github.com/openshift/release/blob/master/ci-operator/config/openshift/openshift-azure/master.yaml
- E2E tests execute via Openshift templates
  https://github.com/openshift/release/tree/master/ci-operator/templates/openshift-azure

Release artifacts

Output of all the great development and CI testing:

- Plugin code
  - Vendored by Microsoft inside the Openshift Resource Provider in Azure
  - No additional step yet to release apart from merging in master
- Sync image
  - Built on every merged commit and mirrored in
- SRE tooling (logbridge, prometheus-sidecar, ...)

Fin