

# 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)



- 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



=	≡ Frow Status									
Filter	all job	b types	all repositories	>> all pull requests I all authors	▼ pull-ci-openshift-azure-upgrade	all states 💌	Showing 11/11 jobs			
			Repository	Revision	Job	Started	Duration			
0		G	openshift/openshift-azure	#384 (3e0d131) by kargakis	pull-ci-openshift-azure-upgrade	08:29:56	2m52s			
0		G			pull-ci-openshift-azure-upgrade	06:29:17	4m3s			
9		G			pull-ci-openshift-azure-upgrade	04:28:04	2m44s			
9		G	openshift/openshift-azure	#328 (e9c7cde) by kwoodson	pull-ci-openshift-azure-upgrade	Sep 10 20:12:37	1h58m55s			
<b>Ø</b>		G	openshift/openshift-azure	#374 (1c56b6b) by kargakis	pull-ci-openshift-azure-upgrade	Sep 10 20:12:09	1h19m23s			
0		G	openshift/openshift-azure	#384 (3e0d131) by kargakis	pull-ci-openshift-azure-upgrade	Sep 10 20:11:54	40m38s			
<b>⊘</b>		G	openshift/openshift-azure	#377 (a1a511d) by kargakis	pull-ci-openshift-azure-upgrade	Sep 10 18:15:14	1h32m18s			



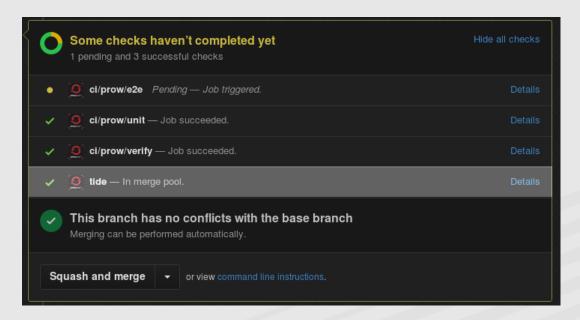


Tide Status

Merge Requirements: (click to expand)

Repo	State	Batch	Passing	Pending	Queued for Retest
openshift/openshift-ansible master	WAIT			#9717	#9977
openshift/openshift-ansible release-3.11	WAIT				#9991
openshift/origin master	WAIT			#20889	







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\*

openshirt igin		openshift/openshift-azure PR #387 pull-ci-openshift-azure-conformance #3 Recent runs   View job in Jenkins						
	Result	FAILURE						
	Tests	17 failed / 212 succeeded						
	Started	2018-09-11 08:55 CEST						
	Elapsed	41m53s						
	Version							
		artifacts build log						
		armadas pomonog						
Test Failures								
[Conformance ]Area:Networking ]Feature:Router  The HAProxy router should set Forwarded headers appropriately [Suite:openshift/conformance/parallel] 11m13s  Command: go run hack/e2e.go -v -testtest_args='ginkgo.focus=\[Conformance\]\[Area\:Networking\]\[Feature\:Router\]\sThe\sHAProxy\srouter\sshould\sset\sForwarded\sheaders\sappropriately\s\[Suite\:openshift\]\conformance\[Parallel]\]\starting for the properties of th								
not to have occurred /tmp/openshift/build-rpms/rpm/BUILD/origin-3.10.0/_output/local/go/src/github.com/openshift/origin/test/extended/router/headers.go:80								
Click to see stdout/stderr	Click to see stdout/stderr from junit 12.xml							
Filter through log files								



### 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



We run tests during different points of the development:

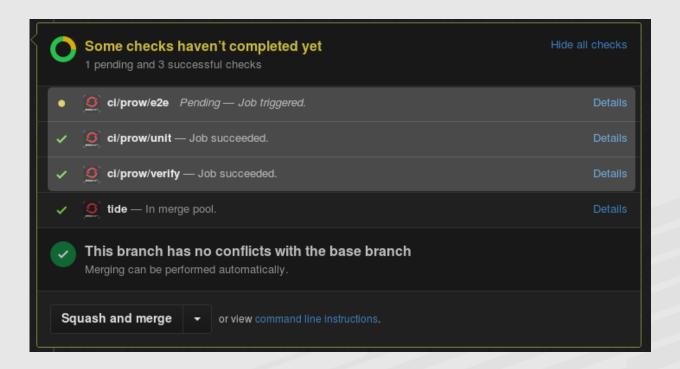
- On every pull request (presubmits)
- On every commit in master (postsubmits)
- Periodically (periodics)



We also run different kinds of tests:

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







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



#### 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