



Kubernetes Upstream Training

その前に



TODO - 1

事前課題として以下のページを参照いただくよう連絡があったと思います。
実施されてない人は以下を参照して実施しておいてください。

<https://github.com/kubernetes-sigs/contributor-playground/blob/master/kft-2020/docs/attendee-prerequisites.md>

以下を使えるようにしておいてください

- git
- golang
- docker

CLAのサインをしておいてください

- <https://github.com/kubernetes/community/blob/master/CLA.md>

TODO - 2

Kubernetes Slackへの参加

- #jp-mentoring , #jp-dev チャンネル

Fork and Clone kubernetes-sigs/contributor-playground

- Fork the repo into your github account
- Clone your account repo into your laptop PC

(Option) Clone kubernetes/kubernetes repo

- Fork the repo into your github account
- Clone your account repo into your laptop PC
- ※本日は実施しません。本資料のAppendixを参照してください。

はじめに





New Contributor Workshop

※本資料は、Kubernetes Contributor Summit San Diego 2019のNew Contributor Workshopの資料をベースに構成を変更したものです。

Welcome on board!



Workshop Facilitators

Beginner/Intermediate Workshop



Akihito Inoh, NEC Solution Innovators

- sig-cluster-lifecycle
- k/dashboard i18n ja

Kohei Toyoda, NEC Solution Innovators

- sig-testing



Shu Muto, NEC Solution Innovators

- sig-ui
- Approver of k/dashboard

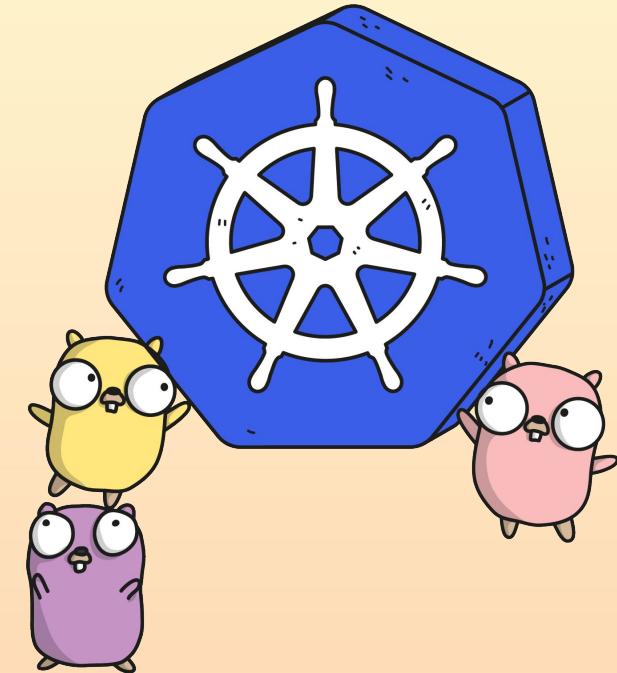
Shingo Ito, NEC Solution Innovators

- sig-testing

Schedule

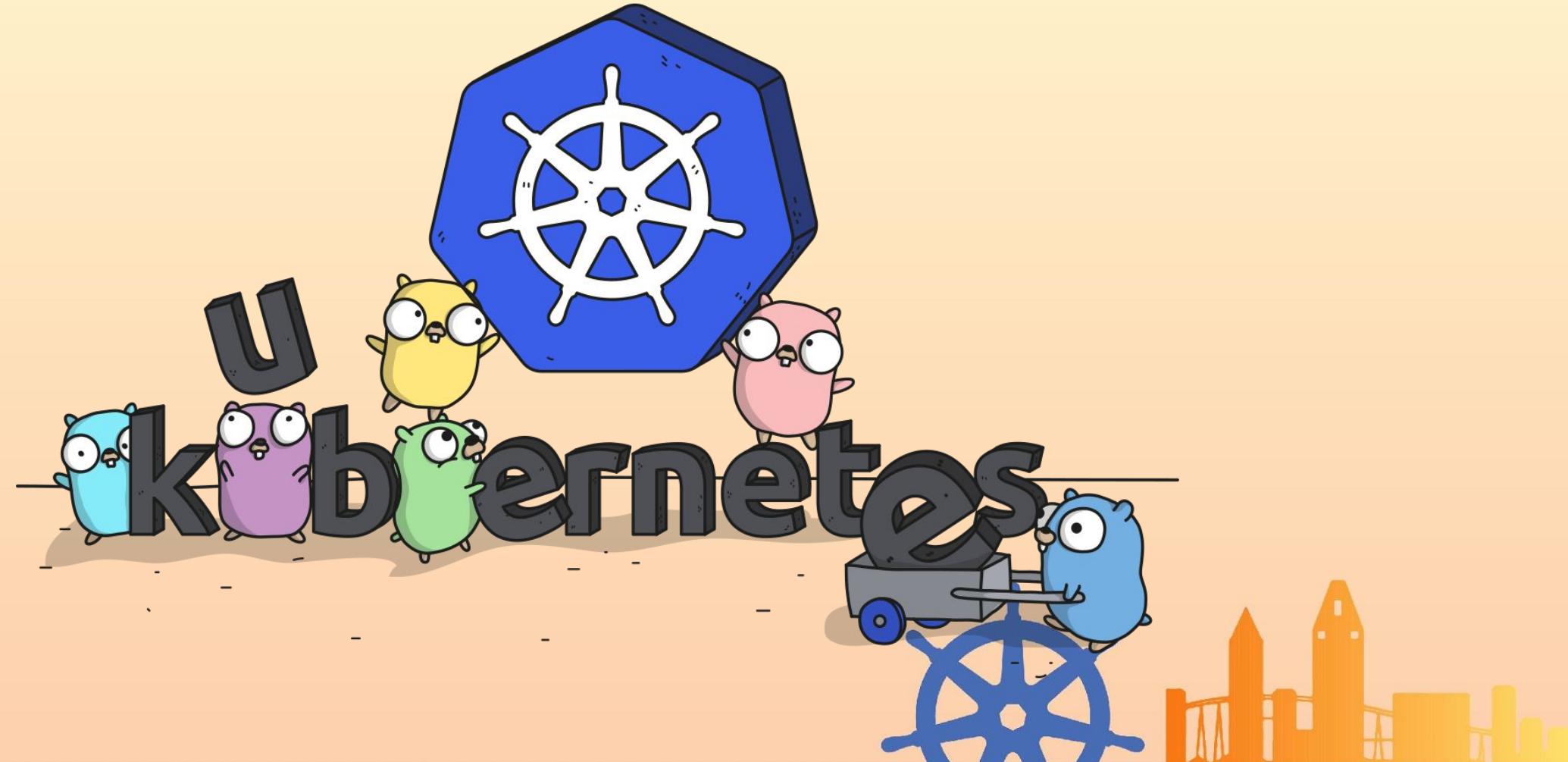
- 13:45-14:25(40m) - Kubernetes コミュニティ
 - Break(10m)
- 14:35-15:05(30m) - Kubernetes 開発環境
 - Break(15m)
- 15:20-15:50(30m) - コントリビューション実践
 - Break(10m)
- 16:00-17:00(1h) - ハンズオン

Total:3h15m



Credit Ashley McNamara and github.com/ashleymcnamara/gophers for Kubernetes Gophers image.
Credit Renee French for the original gopher concept and design.

Who can contribute to Kubernetes?



Credit Ashley McNamara and github.com/ashleymcnamara/gophers for Kubernetes Gophers image.
Credit Renee French for the original gopher concept and design.

kubernetes CONTRIBUTOR SUMMIT
SAN DIEGO 2019

Why contribute to Kubernetes?



The Kubernetes Contributor Patch

\$1,000⁰⁰

Quantity

-	1	+
---	---	---

 Add to Cart

This is an exclusive item only recognized contributors can earn. You must be awarded a purchase code to get this badge of honor.

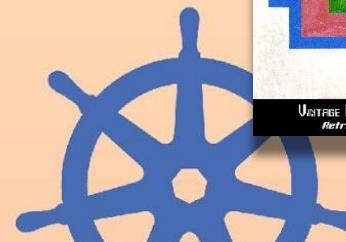
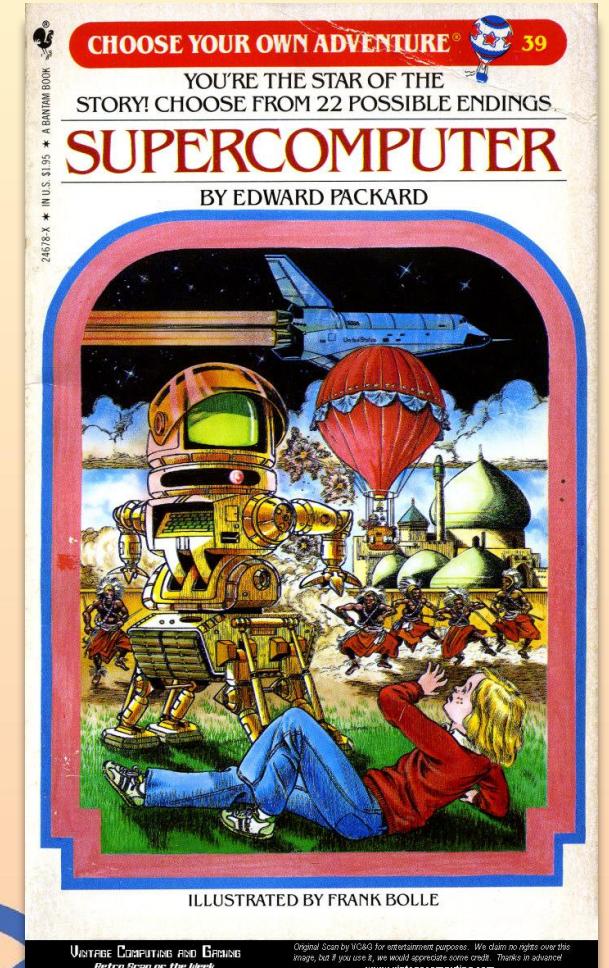
<https://store.cncf.io/products/copy-of-kubernetes-decal>

Fitting Contributions Into Your Job



Choose Your Own Adventure

Figuring out
where
to contribute



kubernetes

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Kubernetes コミュニティ

Community Values

Distribution is better than centralization

Automation over process

Community over product or company

Inclusive is better than exclusive

Evolution is better than stagnation

"Culture eats strategy for breakfast."
-- Peter Drucker



コミュニティ構成

Community Group Types

Special Interest Groups (SIGs)

Persistent open groups that focus on a part of the project.

Working Groups (WGs)

Temporary groups that are formed to address issues that cross SIG boundaries.

User Groups (UGs)

Groups for facilitating communication and discovery of information

Committees

Sets of people that are chartered to take on sensitive topics.



Community Governance

- Special Interest Groups (SIGs)
 - Primary organizational unit
 - Topic specific (Networking, Doc, etc.)
- Subprojects
 - Work in SIGs divided into one or more subprojects
 - Every part of Kubernetes must be owned by subproject
- Working Groups (WGs)
 - Short-lived rallying point
 - Work spanning multiple SIGs



Community Governance

- User Groups
 - Facilitate communication between users and contributors
 - Topics include usage of, extension of, and integration with Kubernetes and Kubernetes subprojects
 - Examples:
 - Big Data
 - Cloud Providers
 - Machine Learning

Community Governance

- Committees
 - Don't have open membership
 - Don't always operate in the open (Security or Code of Conduct)
 - Formed by Steering Committee
 - Committees:
 - Steering
 - Product Security
 - Code of Conduct

Special Interest Group

Kubernetes is a big project

2000 contributors in one
pool would be too noisy

A SIG is a sub-community;
these are you K8s people



Special Interest Group

Charter:

- Code ownership
 - Scope/area
 - Binaries
- Governing processes
- Subprojects
- Working Groups

Mailing List:

- Communications with SIG members

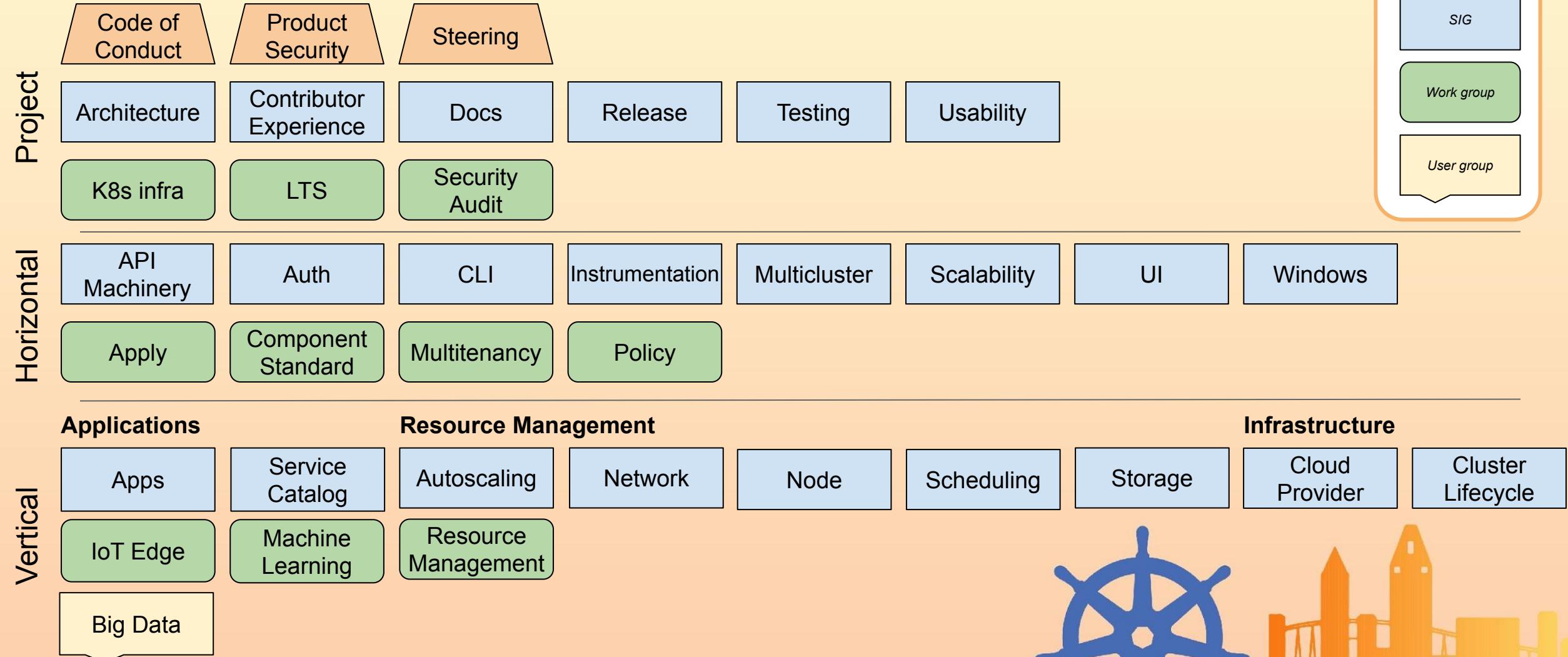


Types of SIGs

- Project
- Horizontal
- Vertical
 - Applications
 - Resource Management
 - Infrastructure



Community Groups Overview



Project SIGs

sig-architecture

sig-contribex

sig-docs

sig-release

sig-testing

sig-usability

Horizontal SIGs

sig-api-machinery

sig-auth

sig-cli

sig-instrumentation

sig-multicloud

sig-scalability

sig-ui

sig-windows

Vertical SIGs: Applications

sig-apps

sig-service-catalog



Vertical SIGs: Resource Management

sig-autoscaling

sig-network

sig-node

sig-scheduling

sig-storage



Vertical SIGs: Infrastructure

sig-cloud-provider

sig-cluster-lifecycle



Subprojects

- Focus areas for SIGS
- Own Code, Issues

kubernetes / sig-release

Code Issues 48 Pull requests 4 Actions Projects 0 Security Insights

Branch: master sig-release / release-team / Create new file Upload files Find file History

[hasheddan] ci signal handbook: update failing and flaky test issue naming strategy ... ✓ Latest commit ca76cd3 12 days ago

[..]

[role-handbooks] ci signal handbook: update failing and flaky test issue naming strategy 12 days ago

[OWNERS] Update OWNERS 8 months ago

[README.md] update release-team documentation 5 months ago

[release-team-onboarding.md] Remove references to the milestone burndown Google Group 7 months ago

[release-team-selection.md] Merge pull request #652 from clarence/master 5 months ago

[shadows.md] Incorporated Claire's feedback on the text. 2 months ago

README.md

Kubernetes Release Team

- Overview
- Specific responsibilities
- Kubernetes Release Team roles
- Other activities of the Release Team
- Release Team Selection
- Milestone Maintainers

Working Groups

Working Groups: Inter-SIG efforts

For specific:

- Goals (ex. Code Cleanup)
- Areas (ex. multi tenancy)



Project Working Groups

wg-security-audit

wg-k8s-infra

wg-LTS



Horizontal Working Groups

wg-apply

wg-component-standard

wg-multitenancy

wg-policy



Vertical Working Groups

Applications

wg-machine-learning

wg-io-edge

Resource Management

wg-resource-management



Picking the right community group

Find a specific project/area
to work on



Picking the right community group

Find out which SIG (or working group) owns your topic

- a. Look on the [SIG list](#) to find SIG info and charters
- b. Ask on #sig-contribex
- c. Attend the SIG Meet-and-Greet later today
- d. Go to the SIG intros at this conference
 - [Youtube Videos](#)
 - Slide:
 - Search with “Intro” at [Here](#) and click session.
 - Download a slide from session page

How Do I Join A Community Group?

1. Join the specific mailing list.
(This is open to anyone.)
2. That's it! You've joined!
You will get a calendar invite to the meeting.



Quick reference

Governance reference

git.k8s.io/community/governance.md

Project Group List

git.k8s.io/community/sig-list.md



Tour of Repositories



Core Repository

[kubernetes/kubernetes](https://github.com/kubernetes/kubernetes)

Most SIGs are stakeholders in the monolith.

Areas of SIG ownership can be found in

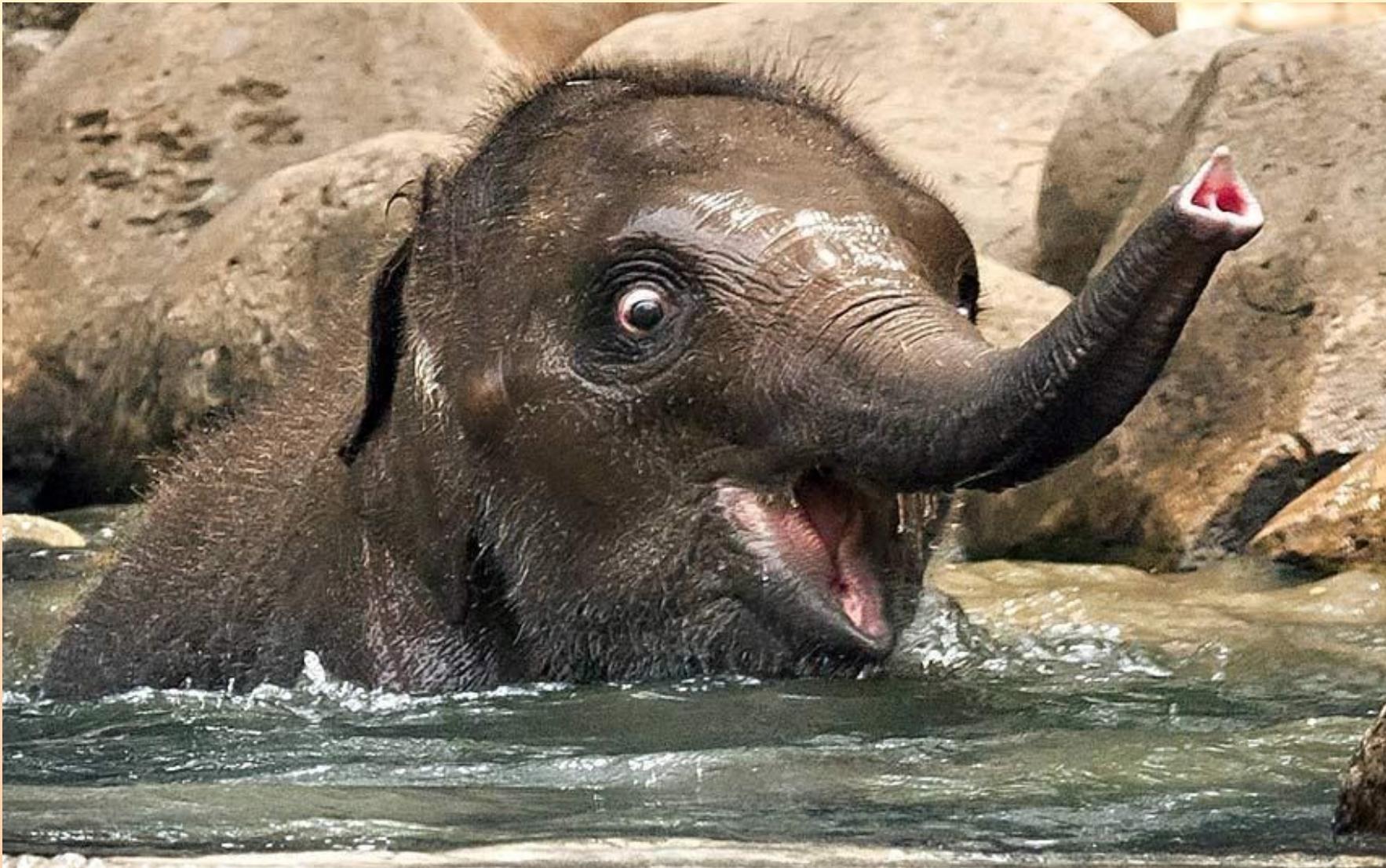
<https://git.k8s.io/community/sigs.yaml>

My repository, my rules

Repos can have different:

- Ownership
- Approval workflows
- Merge workflows
- Release cycles

Ready to jump right in?



Reference links, again

- kubernetes.io/community
- discuss.kubernetes.io
- slack.k8s.io
- groups.google.com/forum/#!forum/kubernetes-dev
- git.k8s.io/community/events/community-meeting.md
- git.k8s.io/community/events/office-hours.md
- git.k8s.io/community/mentoring/programs/meet-our-contributors.md

Engaging Community

SIGs, Areas, Issues: Engaging

What's next for you?



SIGs, Areas, Issues: Engaging

Community Contributions

- Filing Issues
- Answering Questions on StackOverflow
- Github Repo Management
- Blogging, Evangelism, and Promotion
- Event Management and Volunteering
- Visual Communication
- User Experience Feedback and Surveys
- Helping Manage Youtube Recordings
- ...and more!

SIGs, Areas, Issues: Engaging

Mentoring Opportunities

- Meet-Our-Contributors
- Group Mentoring
- Release Team Shadow
- 1-on-1 ad-hoc mentoring
- GSOC/Outreachy/KubeCon Speed Mentoring

SIGs, Areas, Issues: Engaging

Kubernetes Tutorials

- As an operator
- As an app developer
- As a kubernetes developer

<https://kubernetes.io/docs/tutorials/>

SIGs, Areas, Issues: Engaging

Mentoring Links

<https://git.k8s.io/community/mentoring/programs/meet-our-contributors.md>

<https://git.k8s.io/community/mentoring/programs/google-summer-of-code.md>

<https://git.k8s.io/community/mentoring/programs/outreachy.md>

<https://git.k8s.io/community/mentoring/>

Technical Help and Tutorials

<https://git.k8s.io/community/events/office-hours.md>

<https://kubernetes.io/docs/tutorials/>

Contributor Guide

<https://git.k8s.io/community/contributors/guide/README.md>

Developer Guide

<https://git.k8s.io/community/contributors-devel/README.md>



SIGs, Areas, Issues: Engaging

at KubeCon!

- Sessions
- SIG Intros
- SIG Deep Dives
- Hallway Track

KubeCon SanDiego videos

<https://www.youtube.com/playlist?list=PLj6h78yzYM2NDs-iu8WU5fMxINxHXlien>



Contributor Ladder

Contributor Ladder

Subproject
Owner

Set priorities and approve proposals for subproject
Responsibility and leadership for entire
repository/directory

Approver

Approve contributions for acceptance
Highly experienced reviewer and contributor in
subproject

Reviewer

History of reviewing; reviews frequently
Authorship in subproject

Member

Active contributor to the project
Sponsored by two Reviewers

Non-member Contributors



kubernetes

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Contributor Ladder: Membership

A screenshot of a GitHub pull request comment. The comment is from a bot named "k8s-ci-robot" and was posted on December 14, 2017. The comment text reads:

Hi @guineveresaenger. Thanks for your PR.

I'm waiting for a [kubernetes](#) member to verify that this patch is reasonable to test. If it is, they should reply with `/ok-to-test` on its own line. Until that is done, I will not automatically test new commits in this PR, but the usual testing commands by org members will still work. Regular contributors should [join the org](#) to skip this step.

I understand the commands that are listed [here](#).

▶ Details

Below the comment, there is a note indicating that the "needs-ok-to-test" label was added by the bot on December 14, 2017.



Contributor Ladder: Membership

<http://git.k8s.io/community/community-membership.md>



Contributor Ladder

Role	Responsibilities	Requirements	Defined by
member	active contributor in the community	sponsored by 2 reviewers. multiple contributions to the project.	Kubernetes GitHub org member.
reviewer	review contributions from other members	history of review and authorship in a subproject	OWNERS file reviewer entry.
approver	approve accepting contributions	highly experienced and active reviewer + contributor to a subproject	OWNERS file approver entry
subproject owner	set direction and priorities for a subproject	demonstrated responsibility and excellent technical judgement for the subproject	sigs.yaml subproject OWNERS file owners entry

OWNERS

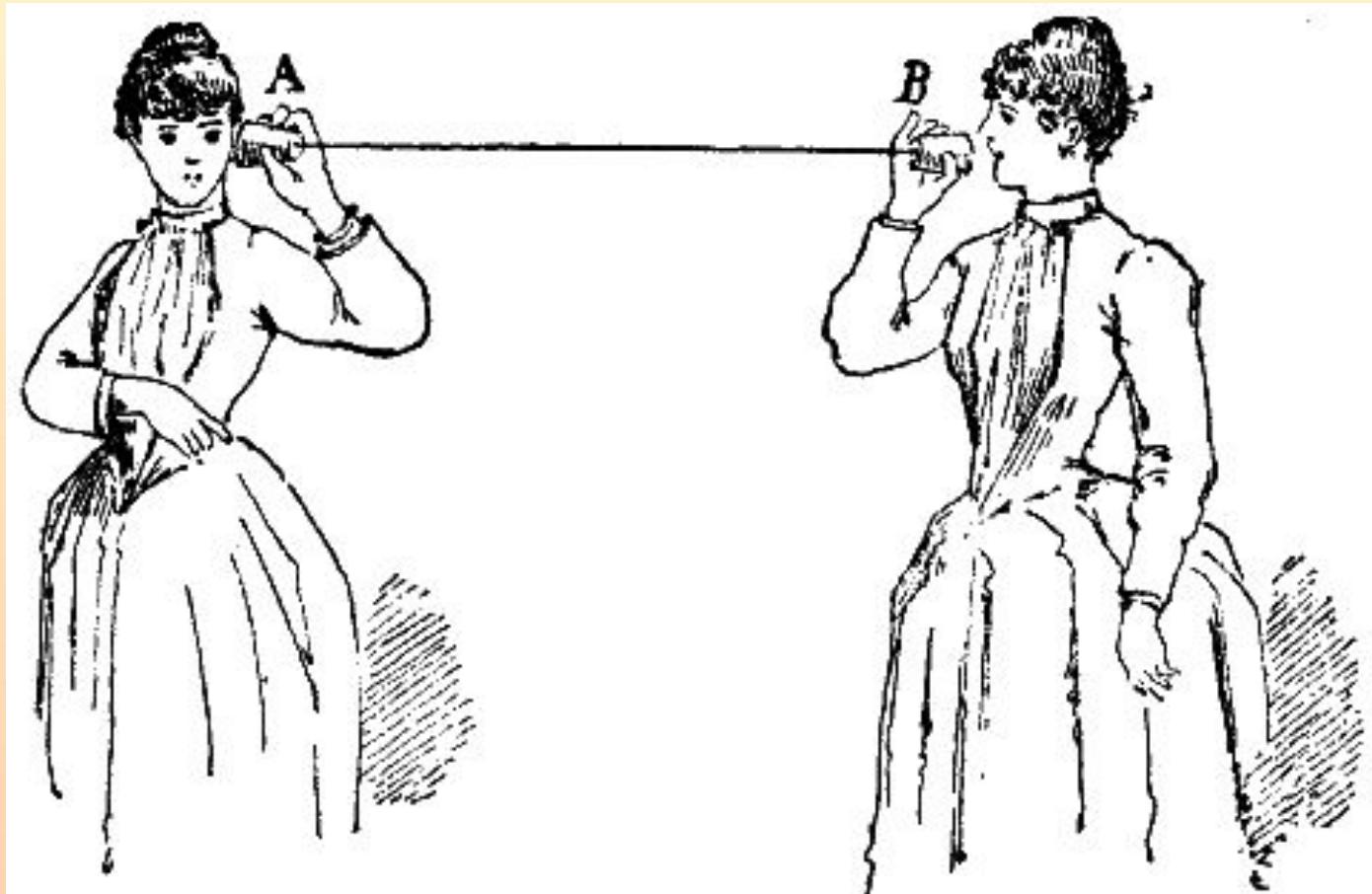
YAML files sprinkled all through the repos, eg:

<http://git.k8s.io/community/contributors/guide/owners.md>

[Kubernetes Core OWNERS file](#)

コミュニケーション

Let's Talk



Communication in the Kubernetes Community





When you're chill with everyone

Standards of Communication

aka: Why is everyone so nice?

We believe that mutual respect is a prerequisite for healthy collaboration.

git.k8s.io/community/code-of-conduct.md

Where to ask Technical Questions

Register here: slack.k8s.io



User Focused

- [#kubernetes-users](#)
- [#kubernetes-novice](#)
- [#office-hours](#)

Contributor Focused

- [#kubernetes-dev](#)
- [#meet-our-contributors](#)
- [#pr-reviews](#)
- [#sig-contribex](#)
- [#jp-dev](#)

日本人向け

- [#jp-dev](#)
- [#jp-mentoring](#)
- [#jp-users](#)
- [#jp-users-novice](#)
- [#jp-events](#)
- [#kubernetes-docs-ja](#)

Discuss

 **kubernetes**

Do you want live notifications when people reply to your posts? [Enable Notifications.](#)

This site is governed by the [CNCF Code of Conduct](#). Check out our [quick tutorial video](#) on how to effectively subscribe to topics.

[all categories](#) [Categories](#) [Latest](#) [New \(10\)](#) [Top](#) [+ New Topic](#)

Category	Topics
Announcements Announcements from around the Kubernetes community. Posts here must be Kubernetes related, commercial products and services are also welcome, please keep it classy.	5 / week 3 new
General Discussions Got something to say about Kubernetes? Hop in here. Links to interesting cloud-native blog posts encouraged. Technical support questions are better off posted on StackOverflow .	14 / week 7 new
Regional Discussions The Regional Discussions Category is intended for those users that belong to a specific region or share a common language to openly interact and connect with each other in their native language. If you are interested in establishing a new regional board, please reach out to one of the admins .	1 / week
Chinese Ukrainian Italian German	
Contributors	6 / week

Latest

-  [Welcome to Discuss Kubernetes](#) 0 Aug 21
-  [Service discovery in eks cluster](#) • [General Discussions](#) 1 1h
-  [Boomi in kubernetes](#) • [General Discussions](#) 0 4h
development
-  [One year of Weave Flux](#) • [General Discussions](#) 0 6h
gitops
-  [\[Book\] Getting Started with Kubernetes - Third Edition](#) • [Announcements](#) 0 7h

Want more long-form discussions?

Head over to:
discuss.kubernetes.io



Planning and Discussion

Mailing lists

- One per SIG/WG
 - Some have more for large subprojects.
- Run on Google Groups
- You need to join:
 - [kubernetes-dev](#)
 - Required for Org Membership!





Issues Features Pull requests



Break up and Refactor test/e2e/framework/utils.go #77095

[Open](#) andrewsykim opened this issue 4 days ago · 21 comments

andrewsykim commented 4 days ago • edited

What would you like to be added:
There are a lot of methods in `test/e2e/framework/util.go` that can be cleaned up or moved into its own package for easier consumption/discovery. In #76206 there were some discussions for how to break up this file. The proposed package structure was:

`test/e2e/framework/`

- `kubectl/ (@alejandrox1)`
 - `builder.go`
 - `runner.go`
- `log/ (@WanLinghao)`
 - `logger.go`
- `pod/ (@alejandrox1)`
 - `wait.go`
 - `resource.go`
- `node/ (@alejandrox1)`
 - `wait.go`
 - `resource.go`
- `service/ (@draveness)`
 - `resource.go`
- `endpoints/ (@draveness)`
 - `resource.go`
- `resource/ (@draveness)`
 - `runtime.go`
- `lifecycle/ (@WanLinghao)`
 - `versions.go`
 - `state.go`
 - `restart`
- `wrappers.go (@MorrisLaw)`
- `providers.go (@MorrisLaw)`

I think each package & top level file can be it's own task. Pick a package above, go through each method in `test/e2e/framework/util.go` and move it to that package/file if it makes sense. The above is just a guideline, feel free to introduce new packages/files where it makes sense.

Why is this needed:
This is a part of #76206 & #75601

Assignees
No one assigned

Labels
`area/e2e-test-framework`
`kind/feature`
`sig/testing`

Projects
None yet

Milestone
No milestone

Notifications
[Subscribe](#)
You're not receiving notifications from this thread.

8 participants

Zoom Meetings

Zoom Meeting ID: [REDACTED]

Recording...

Participants (37)

- N Noah (Me)
- Aaron of SIG Beard
- Marco Ceppi
- Paris (Co-host)
- Google
- vantuvt
- Rick Lindberg
- sumi
- Arnaud Meukam
- Jaice Singer DuMars
- aguineveresaenger
- Jorge O. Castro
- Dhawal Yogesh Bhanushali
- Frederic Branczyk
- Marco Ceppi
- Paris
- vantuvt
- Rick Lindberg
- AskMediaGroup

Unmute Me Raise Hand

Zoom Group Chat

From Jorge O. Castro... to Everyone:

A reminder that a bunch of documents and getting started guides encourage people to go to these good-first-issues.

so if you can keep a nice healthy pile it's a good thing.

From Paris to Everyone:

outreachy internships just went live, too. Those applicants will be looking for good-first-issue labels to make a contribution.

From aguineveresaenger to Everyone:

To: Everyone

Type message here

Zoom Meetings

Schedule is on the [community calendar](#)

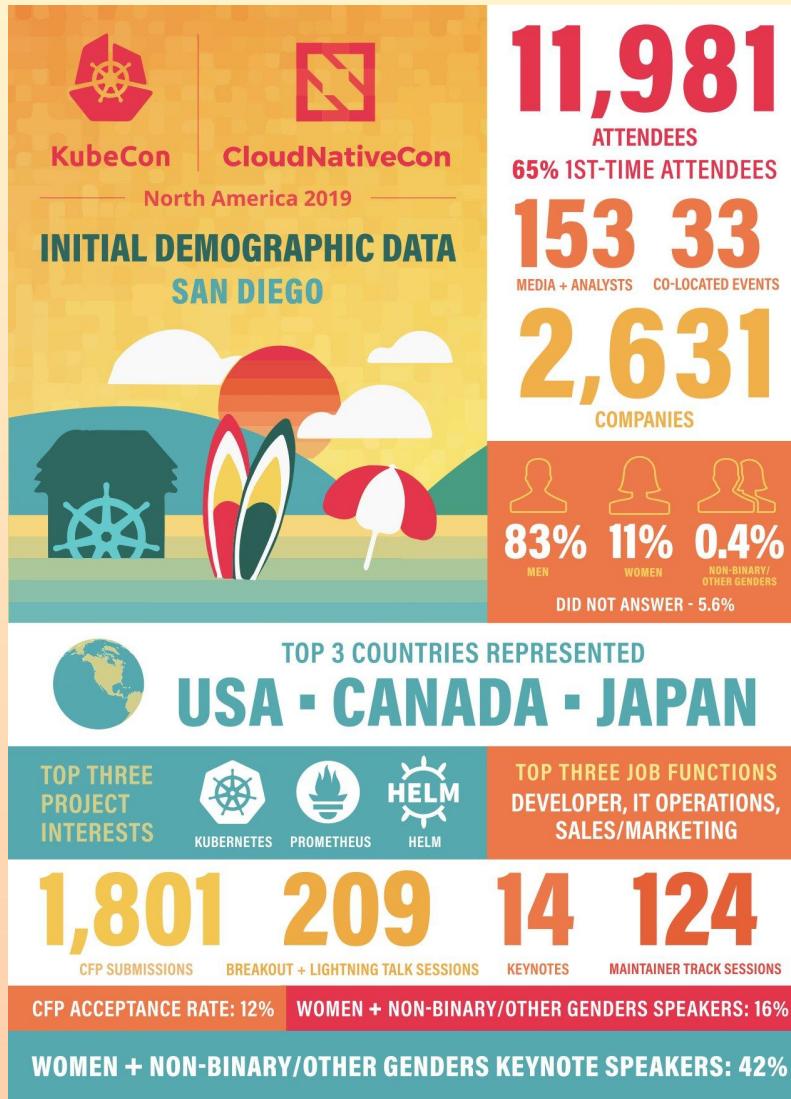
- SIG Meetings
- [Kubernetes Weekly Community Meeting](#)
 - Overview of community activities, release info, and governance updates.
- Special meetings
- Code of Conduct always applies

Other Communications

- kubernetes.io/community
 - Links to everything community related can be found here
- [Meet Our Contributors](#)
 - Monthly live video discussion with contributors
- [Office Hours](#)
 - Monthly live video panel to ask technical questions
- KubeCon + CloudNativeCon
- Face-to-Face SIG meetings
- [Meetups](#)



KubeCon + CloudNativeCon NA 2019について



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Attend a Meetup



Attend a Meetup

コミュニティ活動をしていると人との接点が多くなります。
こういった経験もOSSの活動ならではだと思います。

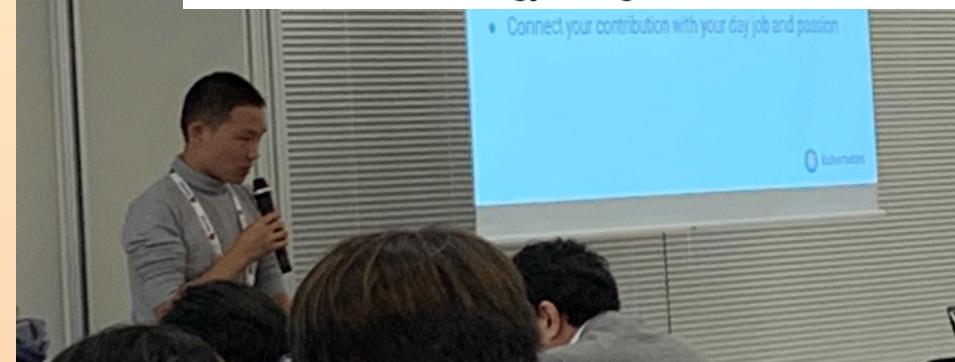


2019/11 Kubernetes Contributor Summit にて
我々の発表セッションのファシリテーションをしてくれた Yang Li さん

Low Barrier To Entry



@guinodes @LachlanEvenson



2019/12 Kubernetes Meetup Tokyo #26にて
日本のMeetupにて発表している Yang Li さん

Collected links

- kubernetes.io/community
- discuss.kubernetes.io
- slack.k8s.io
- groups.google.com/forum/#!forum/kubernetes-dev
- git.k8s.io/community/events/community-meeting.md
- git.k8s.io/community/events/office-hours.md
- git.k8s.io/community/mentoring/programs/meet-our-contributors.md



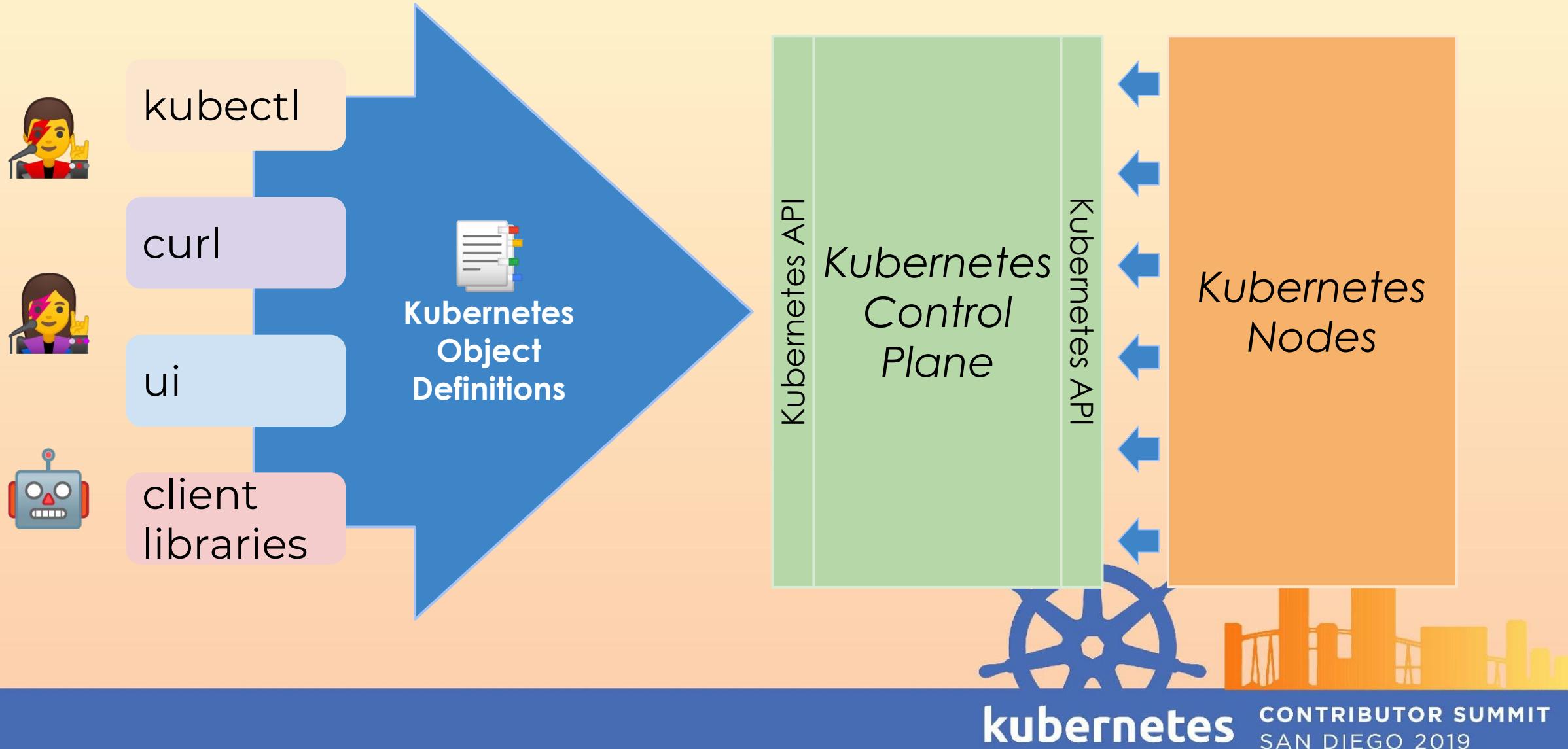
Break - 10 minutes



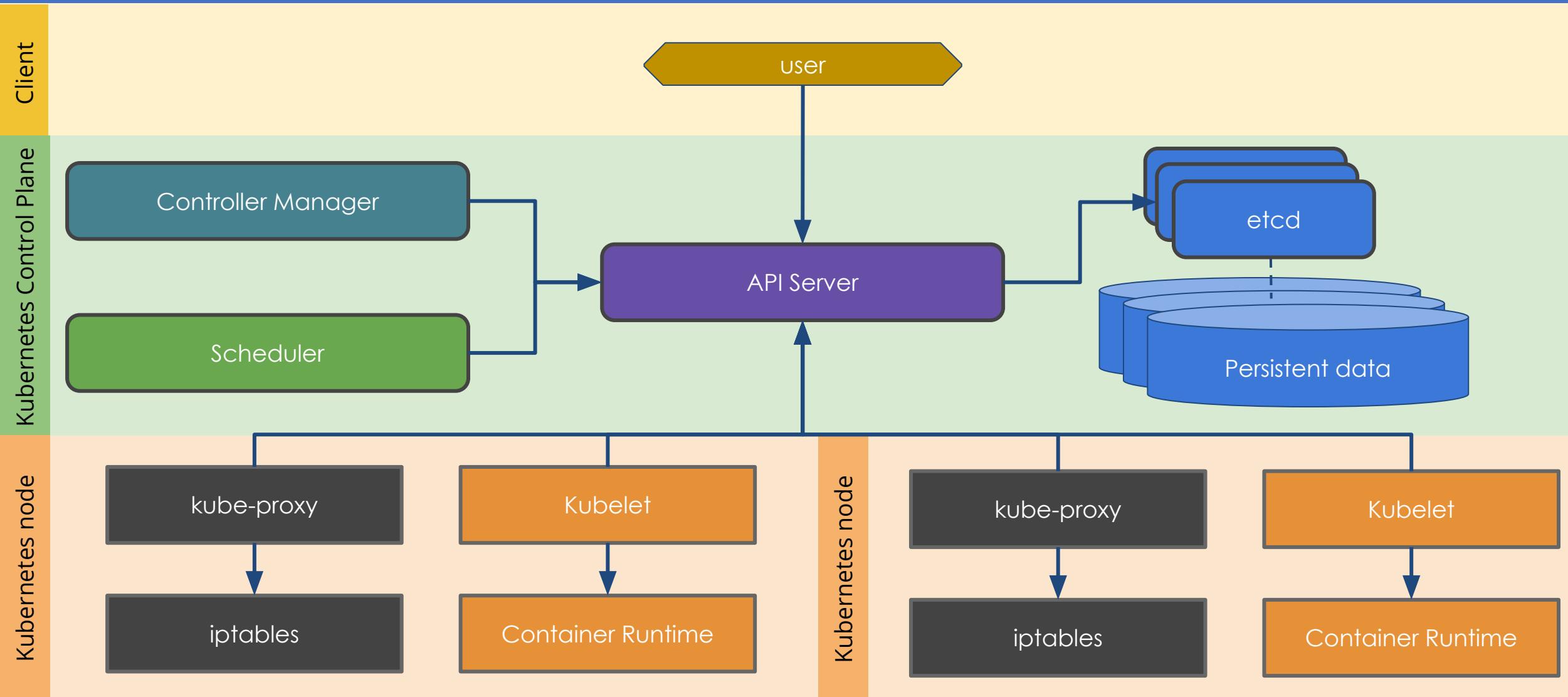
Kubernetes 開発環境

Kubernetes 概要

Kubernetes Architecture Overview



Kubernetes Primitives



Basic Repo/Code Tour

kubernetes / kubernetes

Watch 3.1k Unstar 59.4k Fork 20.9k

Code Issues 2,278 Pull requests 1,076 Actions Projects 9 Security Insights

Production-Grade Container Scheduling and Management <https://kubernetes.io>

kubernetes go cncf containers

84,806 commits 40 branches 0 packages 576 releases 2,339 contributors Apache-2.0

Branch: master New pull request Create new file Upload files Find file Clone or download

Commit	Message	Time
	k8s-ci-robot Merge pull request #84553 from ahg-g/ahg-nodeinfo ...	Latest commit b6bf0d6 1 hour ago
	.github Fix incorrect whitespaces plural	6 days ago
	Godeps Pin dependencies and update vendors	6 days ago
	api Kubernetes version v1.18.0-alpha.0 openapi-spec file updates	yesterday
	build Merge pull request #84329 from jingyih/update_etcd_server_to_3.4	7 hours ago
	cluster Merge pull request #84329 from jingyih/update_etcd_server_to_3.4	7 hours ago
	cmd Merge pull request #84329 from jingyih/update_etcd_server_to_3.4	7 hours ago

kubernetes

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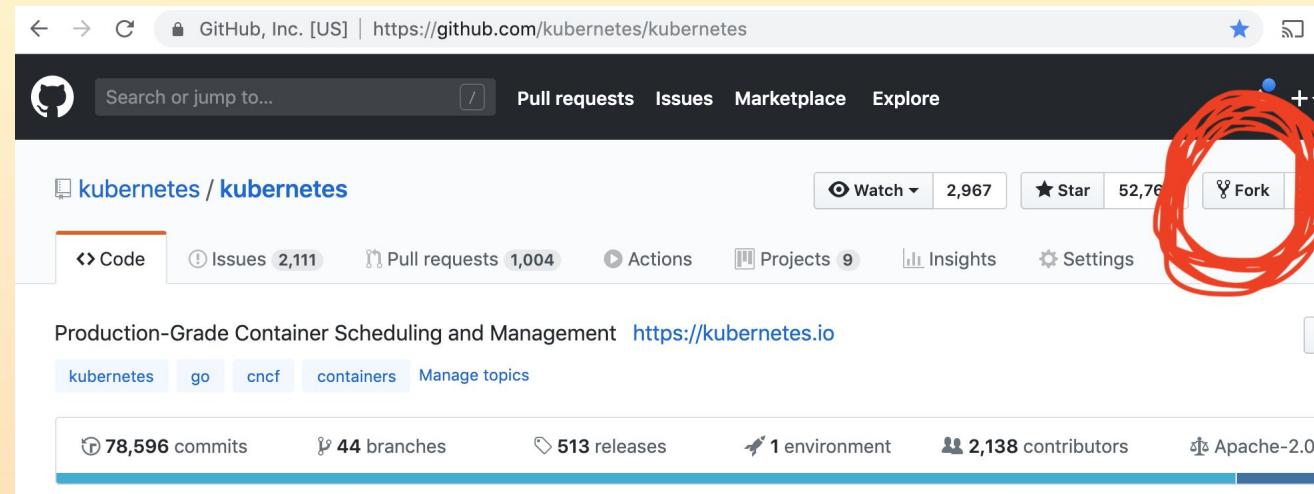
Dev Environment: Pre-Requisites

- Lots of RAM/Disk/CPU
- Linux, Mac, Windows basic dev tools
- Docker (for Mac/Win dedicate **6GB RAM**)
- Golang 1.13 latest and \$GOPATH set
- GitHub:
 - Account and SSH key configured
 - Fork github.com/kubernetes/kubernetes

<https://www.flickr.com/photos/vestman/3900877043/>
By Vestman (vestman) [CC BY 2.0], via flickr



Dev Environment: Initialization



- mkdir -p \$GOPATH/src/k8s.io/ && cd \$GOPATH/src/k8s.io/
- git clone [git@github.com:\\$YOUR_USER/kubernetes.git](git@github.com:$YOUR_USER/kubernetes.git) && cd kubernetes
- git remote add upstream <https://github.com/kubernetes/kubernetes.git>
- git remote set-url --push upstream no_push
- git fetch upstream
- git checkout master

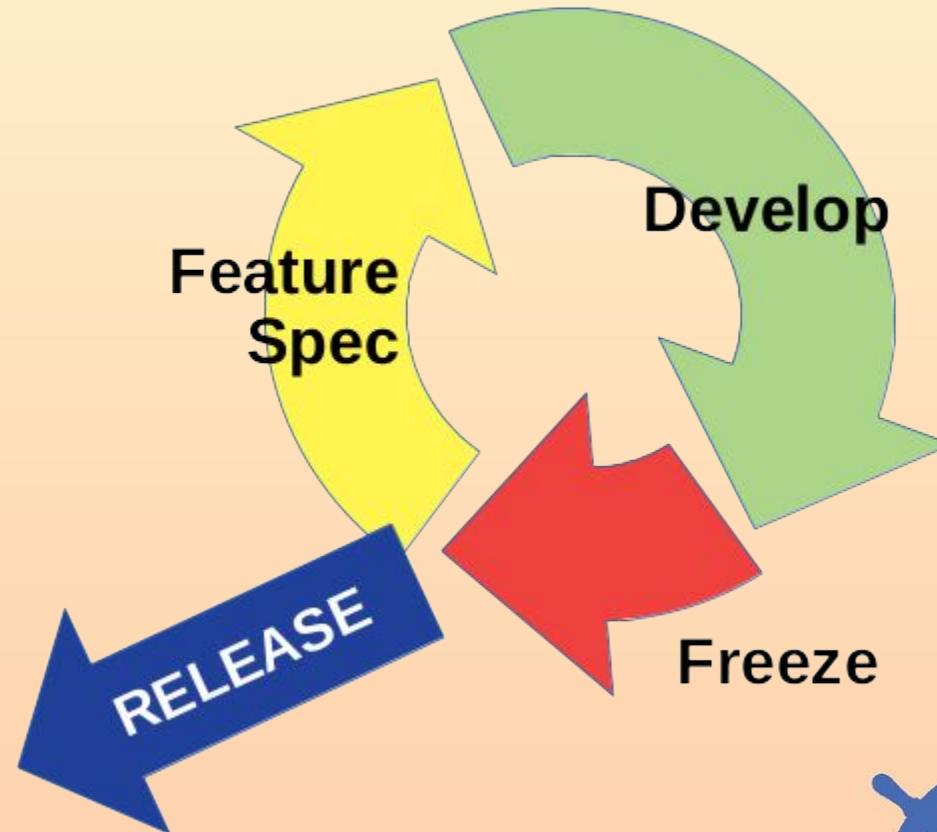


kubernetes

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リリースサイクル

The 3-month Release Cycle



Release Process

Enhancements Discussion (per SIG): ongoing

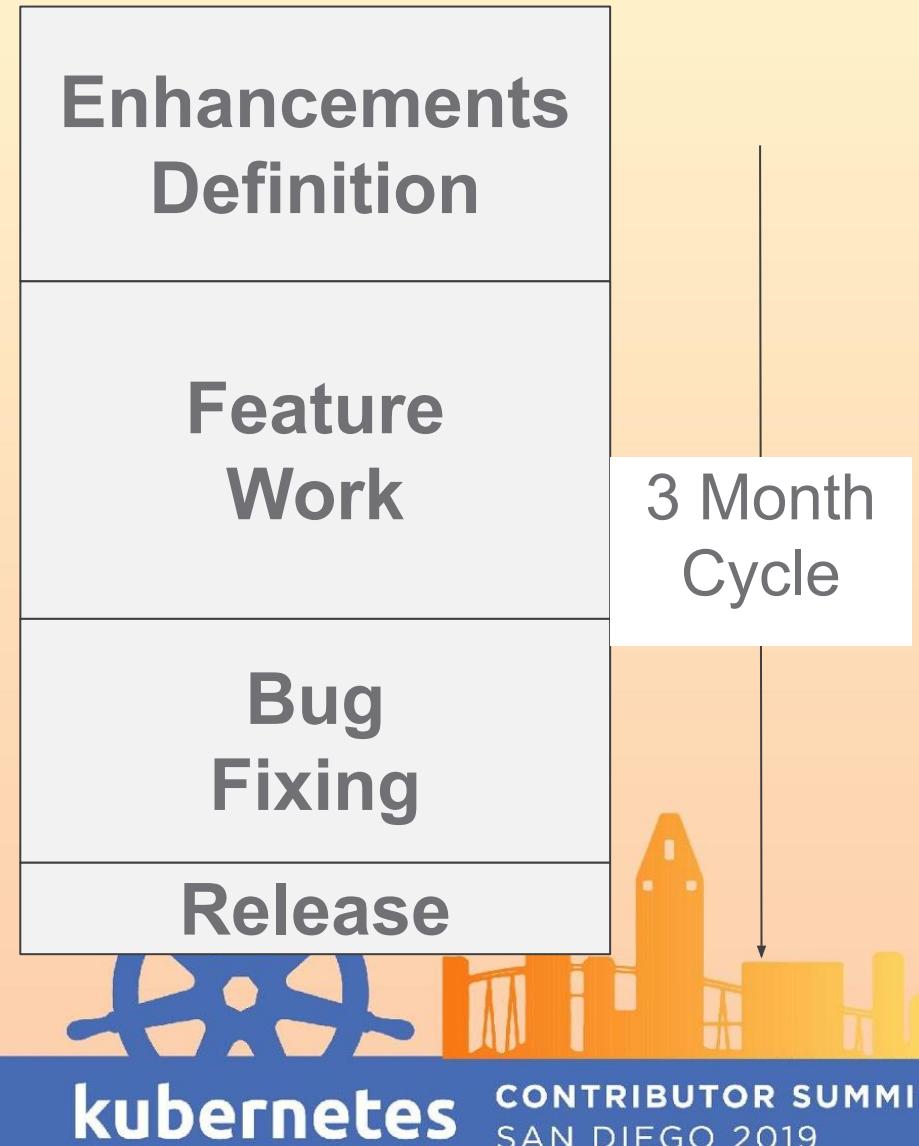
Enhancements Freeze: week ~4

Release Branch Creation: week ~7

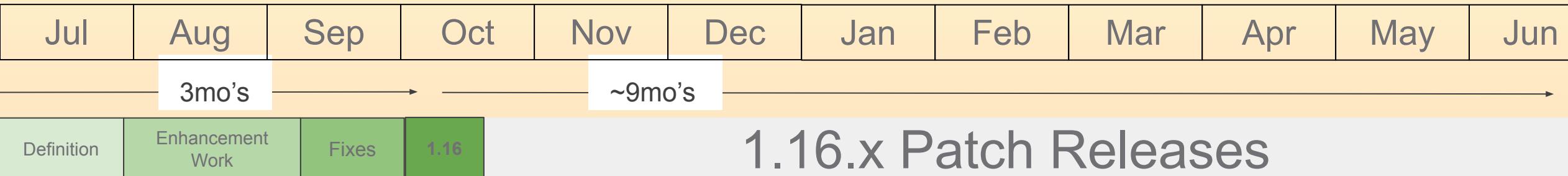
Code Freeze: week ~8
...bugs, testing, bugs, fixing, bugs, ...iterating

End Code Freeze: week ~12

Release: week ~13



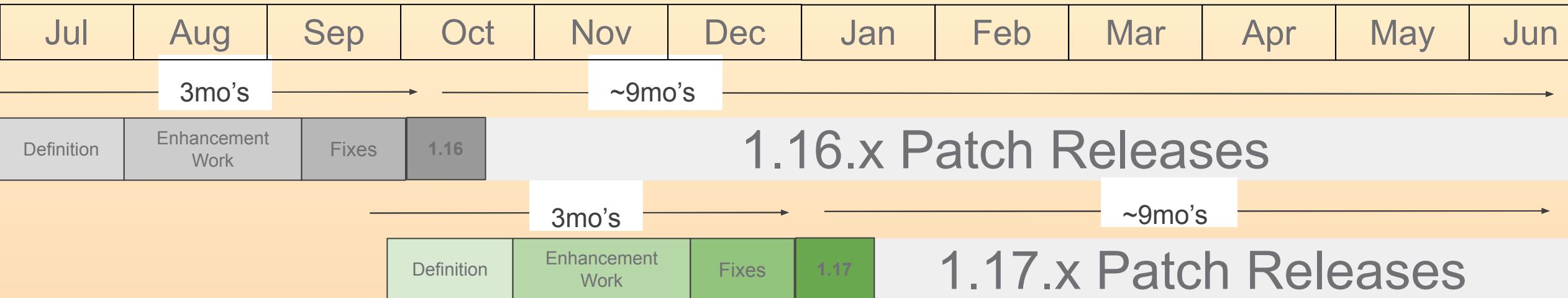
Release Lifecycle



K8s
Releases



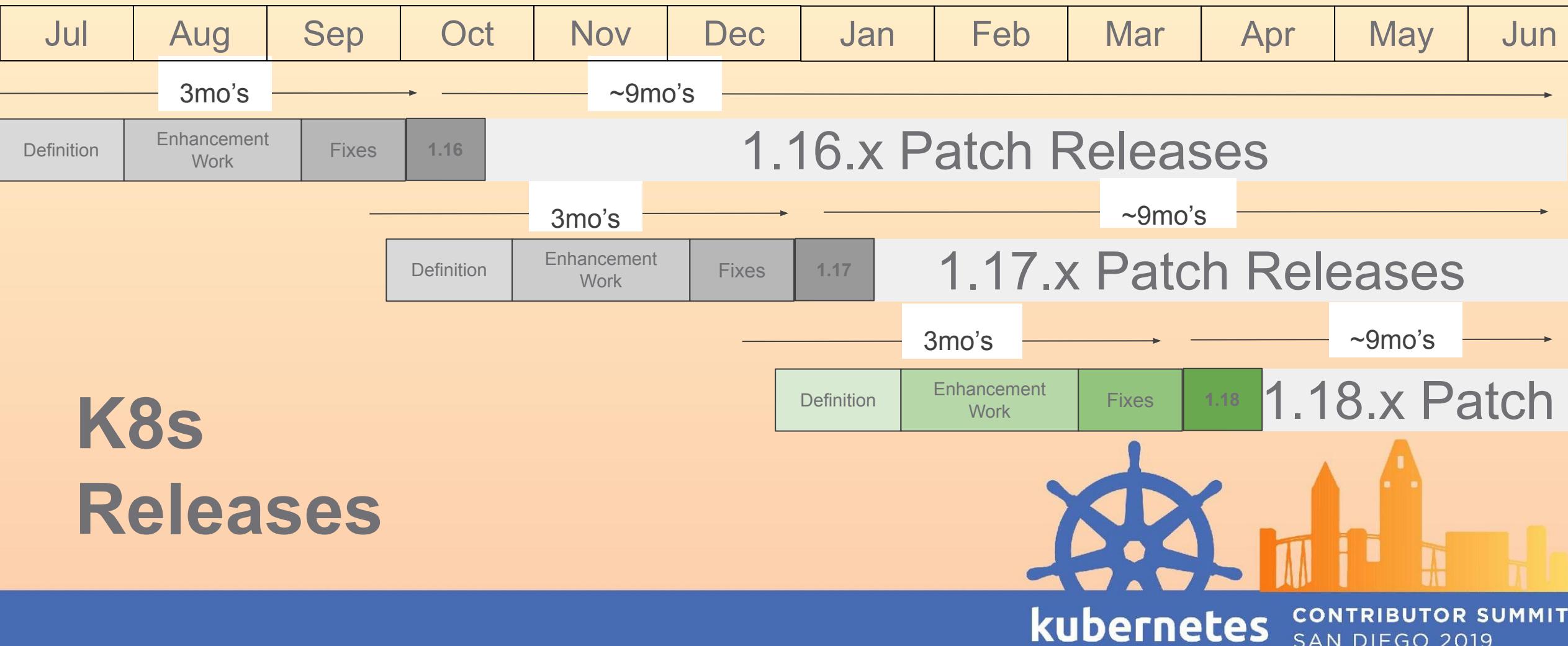
Release Lifecycle



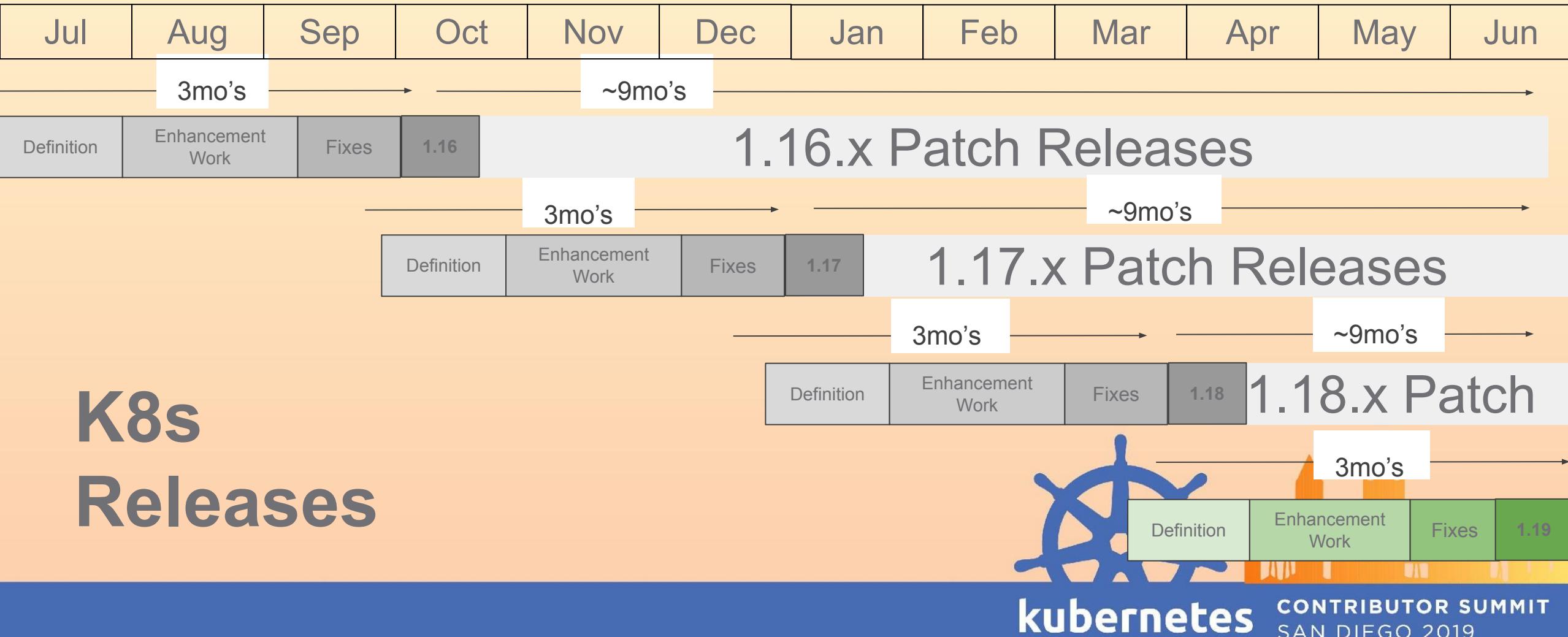
K8s
Releases



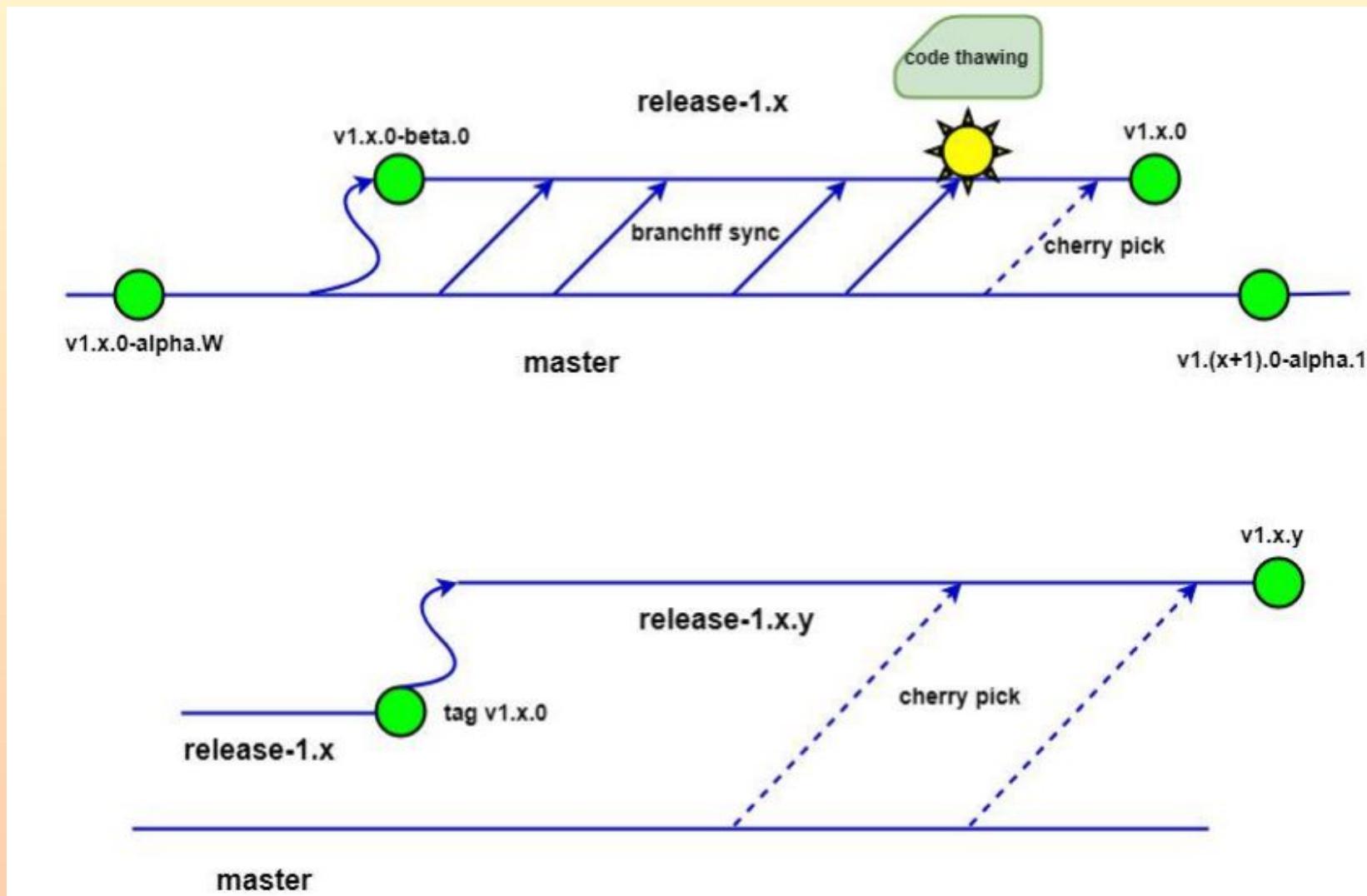
Release Lifecycle



Release Lifecycle



Branch Management



開発環境構築

Build System(s)

- local OS
or
- container based
- go build
- make
- bazel build

<https://git.k8s.io/kubernetes/build/README.md>



Make Targets

- ‘**make**’: go build of host OS/arch-specific core binaries
- ‘**make release**’: (don’t do this)
 - containerized build of client/server/node binaries
 - Window, MacOS, Linux
 - x86/386, x86_64/amd64, arm, arm64, ppc64le, s390x
- ‘**make quick-release**’:
 - containerized build of core binaries
 - defaults to linux/amd64

Testing

- **Unit:** test via native golang
- **Integration:** test package or component interactions
- **End-to-end (“e2e”):** tests overall system behavior and coherence on a fully integrated cluster
- **Conformance:** subset of e2e, tests SIG Architecture approved to define the core set of interoperable features

[https://git.k8s.io/community/contributors/guide/contributing.md
#testing](https://git.k8s.io/community/contributors/guide/contributing.md#testing)

Testing: Unit Tests

- Simple native golang
- Example: run kubectl's unit tests
- `cd pkg/kubectl; go test ./...`

```
ok     k8s.io/kubernetes/pkg/kubectl    5.525s
?      k8s.io/kubernetes/pkg/kubectl/apply [no test files]
ok     k8s.io/kubernetes/pkg/kubectl/apply/parse  0.442s
ok     k8s.io/kubernetes/pkg/kubectl/apply/strategy 2.916s
ok     k8s.io/kubernetes/pkg/kubectl/apps   0.251s
:
:
```

Testing: Integration

- Package or component interactions
- Requires dependency management
- Example: run a test of k8s code + etcd
- `hack/install-etcd.sh; make test-integration`

Testing: End-to-End (e2e)

- Cluster interactions
- Requires ... a cluster
- Example: run a focused e2e test (requires Linux)

```
sudo PATH=$PATH hack/local-up-cluster.sh
export KUBECONFIG=/path/to/kubeconfig
kubetest --provider=local --test --test_args="--minStartupPods=1
--ginkgo.focus=Secrets"
```

Testing: Conformance

- Subset of e2e
- SIG Architecture approved tests
- Represent core set of interoperable features
- Example: run the conformance tests

(see previous on local-cluster-up.sh)

```
make WHAT="test/e2e/e2e.test vendor/github.com/onsi/ginkgo/ginkgo cmd/kubectl"  
kubetest --provider=skeleton --test --test_args="--ginkgo.focus=\[Conformance\]"
```

Testing: Minikube

- <https://github.com/kubernetes/minikube/>
- Kubernetes **cluster-in-a-VM** on your local machine!
- Requirements:
 - Host machine with kubectl
 - Guest VM ability
 - Host<->Guest networking and internet connectivity

Testing: KinD

- <https://github.com/kubernetes-sigs/kind/>
- Kubernetes **cluster-in-a-container** on your local machine!
- Requirements:
 - Docker runtime
 - Internet connectivity
- Get KinD, build k8s from source, start cluster:
 - `GO111MODULE="on" go get -u sigs.k8s.io/kind@master`
 - `kind build node-image`
 - `kind create cluster --image kindest/node:latest`



Break - 15 minutes

Let us know if you need any additional hands on help with your laptop configuration...



コントリビューション実践

Open Source Interactions

Open Source Interactions

me
implementation
centralized
implicit
assumptions



Photo by John Schnobrich on [Unsplash](#)

Open Source Interactions

me
~~implementation~~
~~centralized~~
~~implicit~~
~~assumptions~~

we
collaboration
decentralized
explicit
shared theories

Open Source Interactions

functionality
code



Open Source Interactions

functionality
code

docs
tests
integrations
releases
security



Open Source Interactions

HUMAN / SOCIAL:



functionality
code
docs
tests
integrations
releases
security



Photo by [You X Ventures](#) on [Unsplash](#)

Open Source Interactions

Be good people!

Mutual respect is a prerequisite for healthy collaboration.

git.k8s.io/community/code-of-conduct.md

<https://github.com/cncf/foundation/blob/master/code-of-conduct-languages/jp.md>

Open Source Interactions

Goal: Get a change into project



Photo by Alexander Muzenhardt on [Unsplash](#)

Open Source Interactions

Goal: Get a change into project

Path:

- Visibility, transparency, proactive communication
- Code, plus documentation, plus test cases
- Presence in meetings, Slack, mailing list
- Reviewable code

Open Source Interactions

Reviewable code:

- demonstrates sound *IDEA*...through words
- demonstrates reasonably architected solution...through words
- polished implementation
 - coding style
 - quality standards
 - <https://chris.beams.io/posts/git-commit/>

Open Source Interactions

Reviewable code:

- demonstrates sound ***IDEA***...through words
- demonstrates reasonably architected solution...through words
- polished implementation
 - coding style
 - quality standards
 - <https://chris.beams.io/posts/git-commit/>

Make the reviewer's job easy:

- commit subject line **summarizes** in “**Do foo for bar**”
- commit body details **what & why**

Open Source Interactions

Timing:

- expect things you **CARE** about to take time
- quality vs. speed
- decentralized consensus forming
- conversations wrap the globe
- is it code freeze right now or merge time?

Open source is fast in aggregate, but:

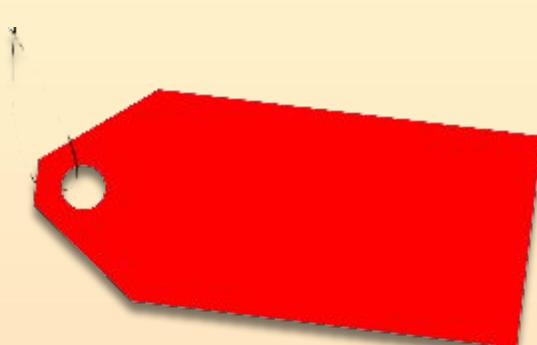
- **idea → months → alpha → 1+ release → beta → 1+ release → stable**
- ...9-24 months

Open Source Interactions

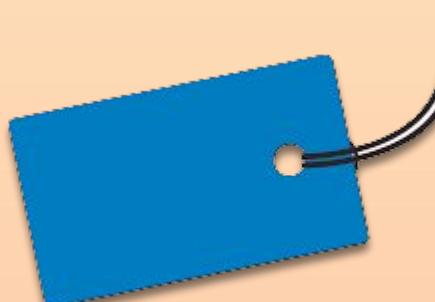


Labels

SIGs, Labels, Issues: Overview



How to talk to the Kubernetes
community and automation



 k8s-ci-robot commented 14 days ago

Owner + 

Thanks for your pull request. Before we can look at your pull request, you'll need to sign a Contributor License Agreement (CLA).

 Please follow instructions at <https://git.k8s.io/community/CLA.md#the-contributor-license-agreement> to sign the CLA.

It may take a couple minutes for the CLA signature to be fully registered; after that, please reply here with a new comment and we'll verify. Thanks.

- If you've already signed a CLA, it's possible we don't have your GitHub username or you're using a different email address. Check your existing CLA data and verify that your [email is set on your git commits](#).
- If you signed the CLA as a corporation, please sign in with your organization's credentials at <https://identity.linuxfoundation.org/projects/cncf> to be authorized.
- If you have done the above and are still having issues with the CLA being reported as unsigned, please email the CNCF helpdesk: helpdesk@rt.linuxfoundation.org

► Details

 k8s-ci-robot added the **cncf-cla: no** label 14 days ago

 k8s-ci-robot requested review from **idvoretskyi** and **tpepper** 14 days ago

 k8s-ci-robot added the **needs-ok-to-test** label 14 days ago

guineveresaenger

Labels

approved
area/contributor-guide
cncf-cla: no
lgtm
needs-rebase
sig/contributor-experience
size/XS

Projects

None yet

Milestone

No milestone

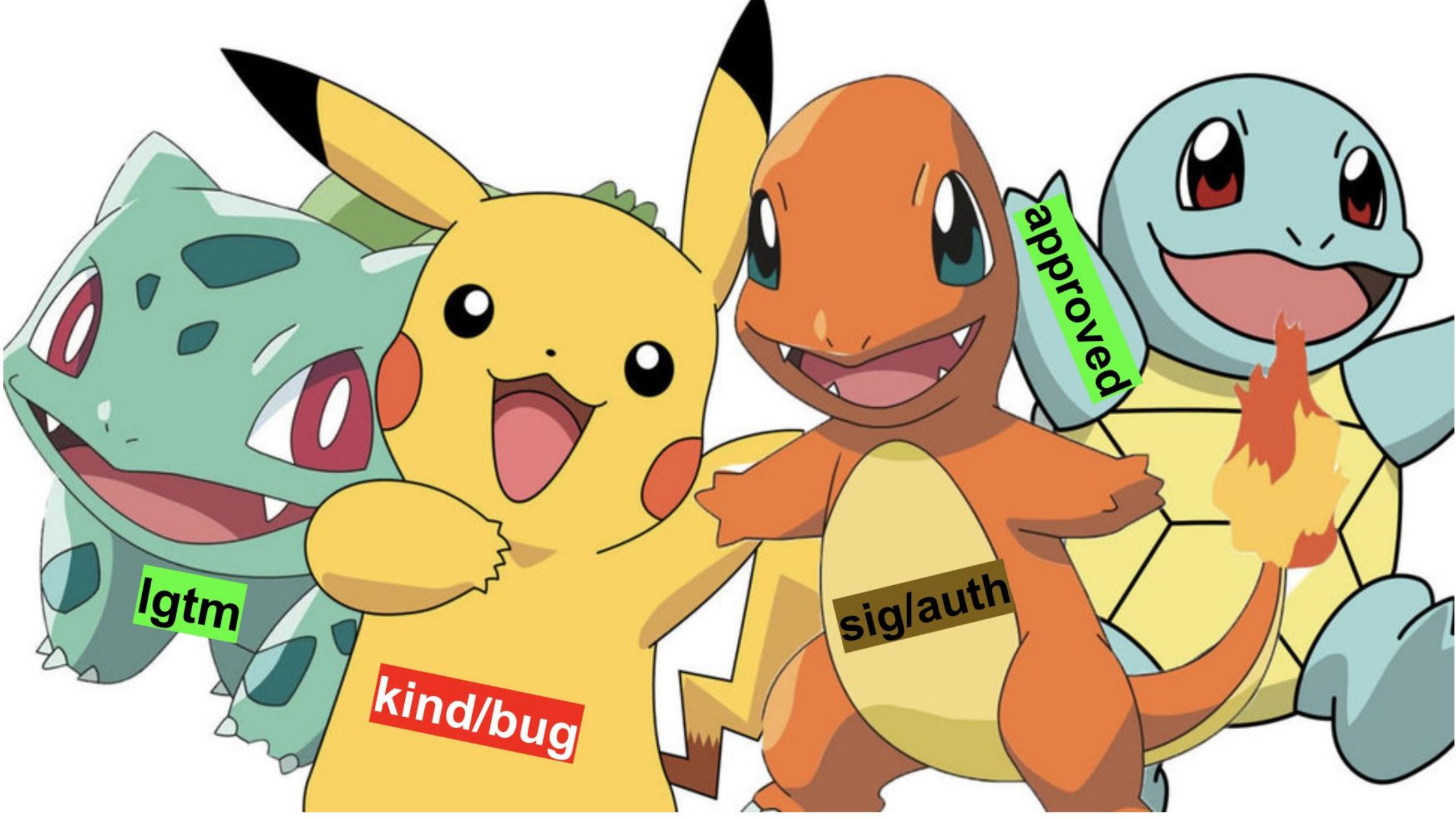
Notifications

 [Unsubscribe](#)

You're receiving notifications because you were mentioned.

7 participants





lgtm

kind/bug

sig/auth

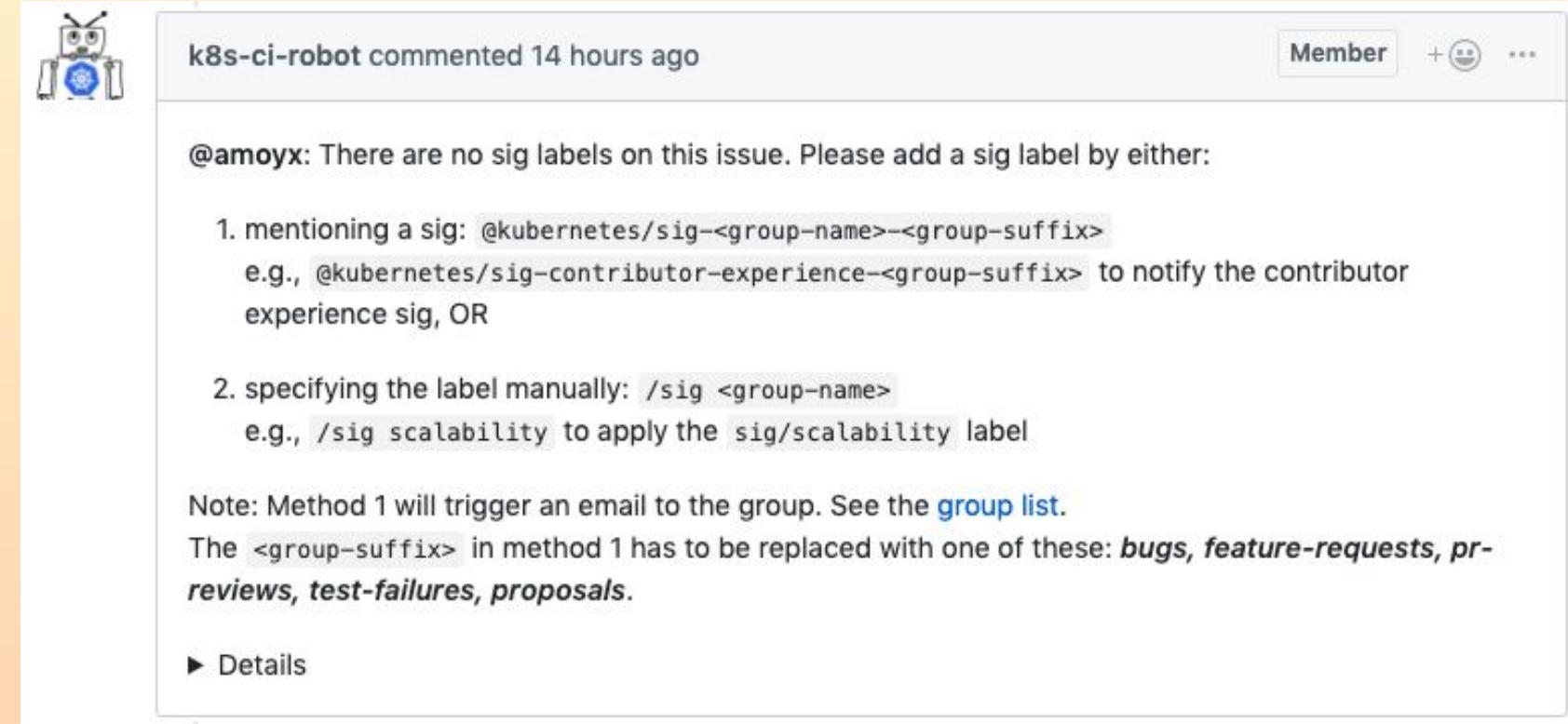
approved

WIP

Required Labels for Issues

On creation:

sig/
kind/



A screenshot of a GitHub issue comment. The comment is from a user named "k8s-ci-robot" and was posted 14 hours ago. The comment text reads: "@amoyx: There are no sig labels on this issue. Please add a sig label by either:

- mentioning a sig: @kubernetes/sig-<group-name>-<group-suffix>
e.g., @kubernetes/sig-contributor-experience-<group-suffix> to notify the contributor experience sig, OR
- specifying the label manually: /sig <group-name>
e.g., /sig scalability to apply the sig/scalability label

Note: Method 1 will trigger an email to the group. See the [group list](#). The <group-suffix> in method 1 has to be replaced with one of these: *bugs, feature-requests, pr-reviews, test-failures, proposals*.

<https://prow.k8s.io/command-help>

The SIG Label

Label

sig/auth

sig/testing

sig/api-machinery

sig/node

Bot command

/sig auth

/sig testing

/sig api-machinery

/sig node

Adding a label



A screenshot of a GitHub comment card. The card shows a profile picture of a person with a white owl on their shoulder, followed by the text "guineveresaenger commented on Dec 14, 2017". To the right of the comment are three icons: "Member", a smiley face, a pencil, and a close button. Below the comment, the text "/sig contributor-experience" is displayed, with the entire string circled in red.



The Kind Label

kind/bug

kind/feature

kind/documentation

kind/design

kind/failing-test

kind/flake

kind/cleanup

Example bot command: /kind feature



The Area Label

area/kubectl

area/api

area/dns

area/platform/gce

Often, the area label is
the name of a SIG
subproject.

The Priority Label

priority/critical-urgent

priority/important-soon

priority/important-longterm

priority/backlog

priority/awaiting-evidence

Example bot command: /priority critical-urgent

The Triage Label

triage/duplicate

triage/needs-information

triage/support

triage/unreproduceable

triage/unresolved

はじめての コントリビューション

Find an Issue



kubernetes / kubernetes

Watch 3.1k Star 59.9k Fork 21.1k

Code Issues 2,245 Pull requests 1,108 Actions Projects 9 Security Insights

Filters ▾ Labels 187 Milestones 9 New issue

Clear current search query, filters, and sorts

16 Open 32 Closed Author ▾ Labels ▾ Projects ▾ Milestones ▾ Assignee ▾ Sort ▾

ⓘ Port parsing can overflow (TOB-K8S-015: Overflows when using strconv.Atoi and downcasting the result) [area/security](#) [good first issue](#) [help wanted](#) [kind/bug](#) priority/important-soon sig/cli sig/network wg/security-audit #81121 opened on Aug 7 by cji

ⓘ Add unit tests for Scheduler framework [good first issue](#) [help wanted](#) [kind/feature](#) sig/scheduling #80272 opened on Jul 17 by liu-cong

ⓘ Different Webhook with same name have same label-value in metric webhook_admission_duration_seconds [good first issue](#) [help wanted](#) [kind/bug](#) lifecycle/rotten sig/api-machinery sig/instrumentation #79832 opened on Jul 5 by answer1991

ⓘ Support UDP with AWS NLB [area/provider/aws](#) [good first issue](#) [help wanted](#) [kind/feature](#) sig/cloud-provider #79523 opened on Jun 28 by kirmann v1.17

ⓘ Connect lower level traces to surrounding request handling trace [good first issue](#) [help wanted](#) [kind/feature](#) sig/api-machinery #79209 opened on Jun 19 by jpbeztz

- good first issue
- help wanted

<https://github.com/kubernetes/kubernetes/issues?utf8=%E2%9C%93&q=is%3Aopen+label%3A%22good+first+issue%22+label%3A%22help+wanted%22>

Help Wanted: First PR Ideas

- Search for **good first issue** & **help wanted** issues
- Search by SIG & Area labels to match your interest
- Discuss at tables ideas for contributing

...carry this discussion into the SIG Meet & Greet

コードだけではないコントリビューション

- Issue登録
 - バグ報告／機能要望
- ドキュメントの修正

<https://kubernetes.io/docs/home/>

<https://github.com/kubernetes/website>

- ドキュメントバグ
- 実装に沿った最新化
- 日本語訳の貢献
 - kubernetes.io の英語ドキュメントの和訳
 - Kubernetes Dashboard の和訳



PR 投稿

Do Not Boil The Ocean

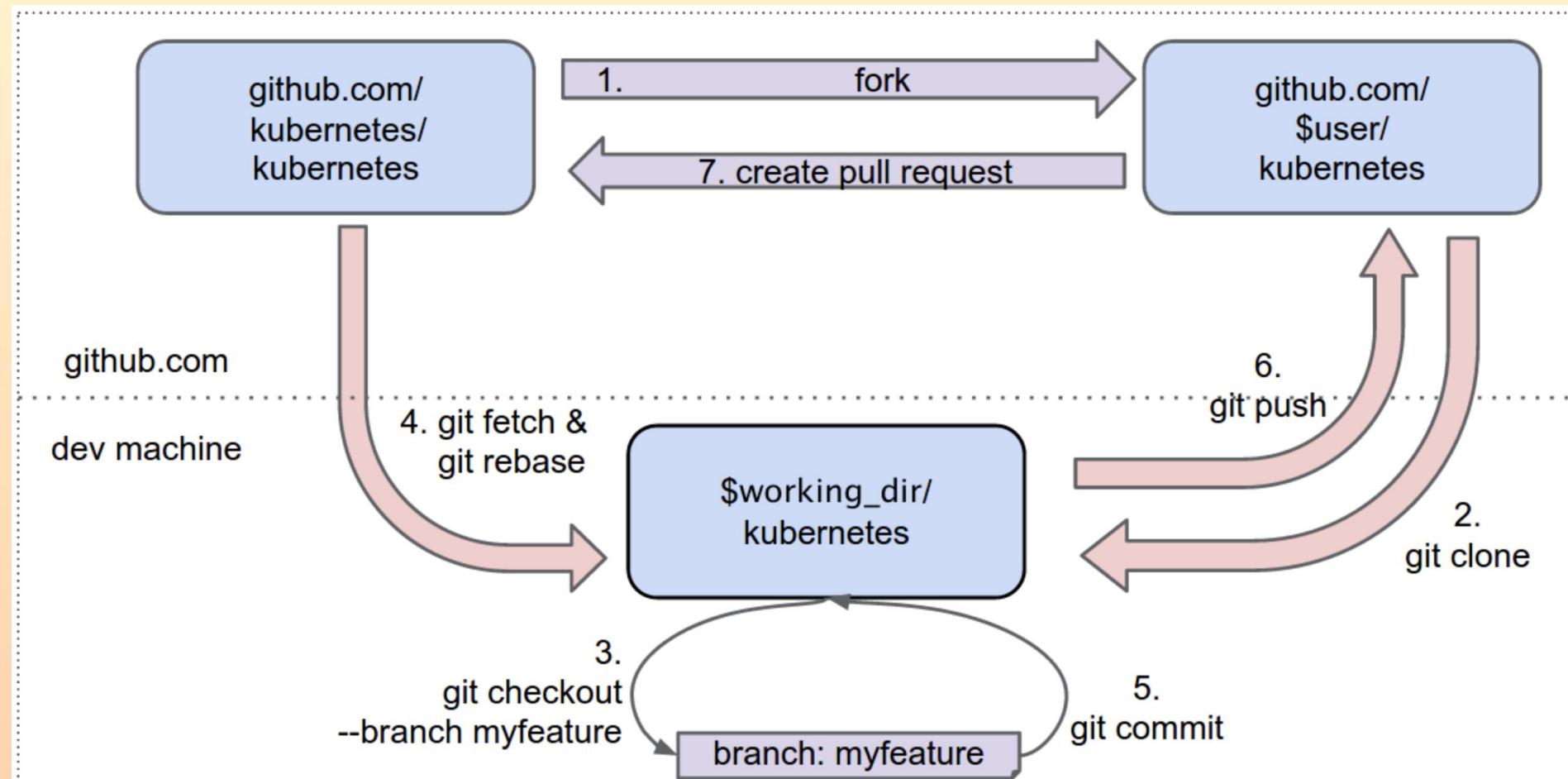


Smaller is
better

Write good
commit
messages



PRs and Bots: GitHub PR Flow

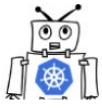


PR Workflow on GitHub

1. You submit Pull Request (PR) using the template
2. You add labels & notes
3. Bots validate and comment on the PR
`release-note` `cncf-cla: no` `needs-ok-to-test` `needs-kind` `needs-sig`
4. You add more labels & notes & resolve review comments
5. SIGs & OWNERS review and /approve → **approved**
6. Other contributors /lgtm → **lgtm**
7. Tests pass
8. *Tide* merges the PR



PRs and Bots: Reviewers/Approvers



k8s-ci-robot commented 7 minutes ago

Member + ...

[APPROVALNOTIFIER] This PR is NOT APPROVED

This pull-request has been approved by: [ksubrmnn](#)

To fully approve this pull request, please assign additional approvers.

We suggest the following additional approver: [rosti](#)

If they are not already assigned, you can assign the PR to them by writing `/assign @rosti` in a comment when ready.

The full list of commands accepted by this bot can be found [here](#).

The pull request process is described [here](#)

▼ Details

Needs approval from an approver in each of these files:

- [cmd/kubeadm/OWNERS](#)

Approvers can indicate their approval by writing `/approve` in a comment

Approvers can cancel approval by writing `/approve cancel` in a comment

レビューアの自動アサイン



Bot Commands



<https://prow.k8s.io/command-help>

PRs and Bots: Useful Commands

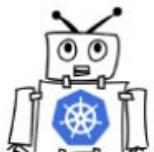
Command

/assign @username
/retest
/close
/cc @username

Result

Assigns a Reviewer
Reruns failed tests
Closes PR
Tags a user

Watch Tests



k8s-ci-robot commented 2 minutes ago

Member



...

@ksubrmnn: The following tests failed, say `/retest` to rerun them all:

Test name	Commit	Details	Rerun command
pull-kubernetes-e2e-gce	0a1251a	link	<code>/test pull-kubernetes-e2e-gce</code>
pull-kubernetes-e2e-gce-device-plugin-gpu	0a1251a	link	<code>/test pull-kubernetes-e2e-gce-device-plugin-gpu</code>

[Full PR test history](#). [Your PR dashboard](#). Please help us cut down on flakes by [linking to an open issue](#) when you hit one in your PR.

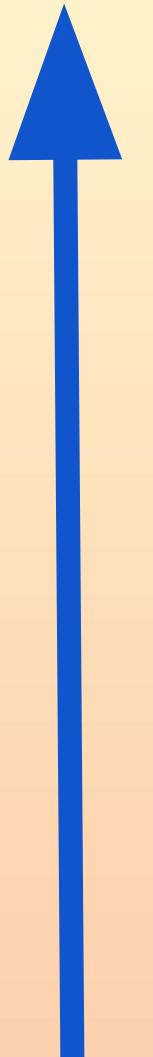
► Details

PRs and Bots: Following Up

Answer questions
Resolve:
Bot messages
Code comments
Test failures



Contributor Ladder



Owner

Set priorities and approve proposals for subproject
Responsibility and leadership for entire repository/directory

Approver

Approve contributions for acceptance
Highly experienced reviewer and contributor in subproject

Reviewer

History of reviewing; reviews frequently
Authorship in subproject

Member

Active contributor to the project
Sponsored by two Reviewers

Non-member Contributors



kubernetes

CONTRIBUTOR SUMMIT
SAN DIEGO 2019

Ask For Help



Finding A Reviewer



- Follow Bot Prompts
- Ping Issue author
- Attach /sig label
- Contact OWNERS or SIG
(k/community/[sigs.yaml](#))
 - send email to list
 - ask Slack
 - attend SIG meeting
- #pr-reviews on k8s Slack

Membership

Community Groups

Code Contributions

reviewing

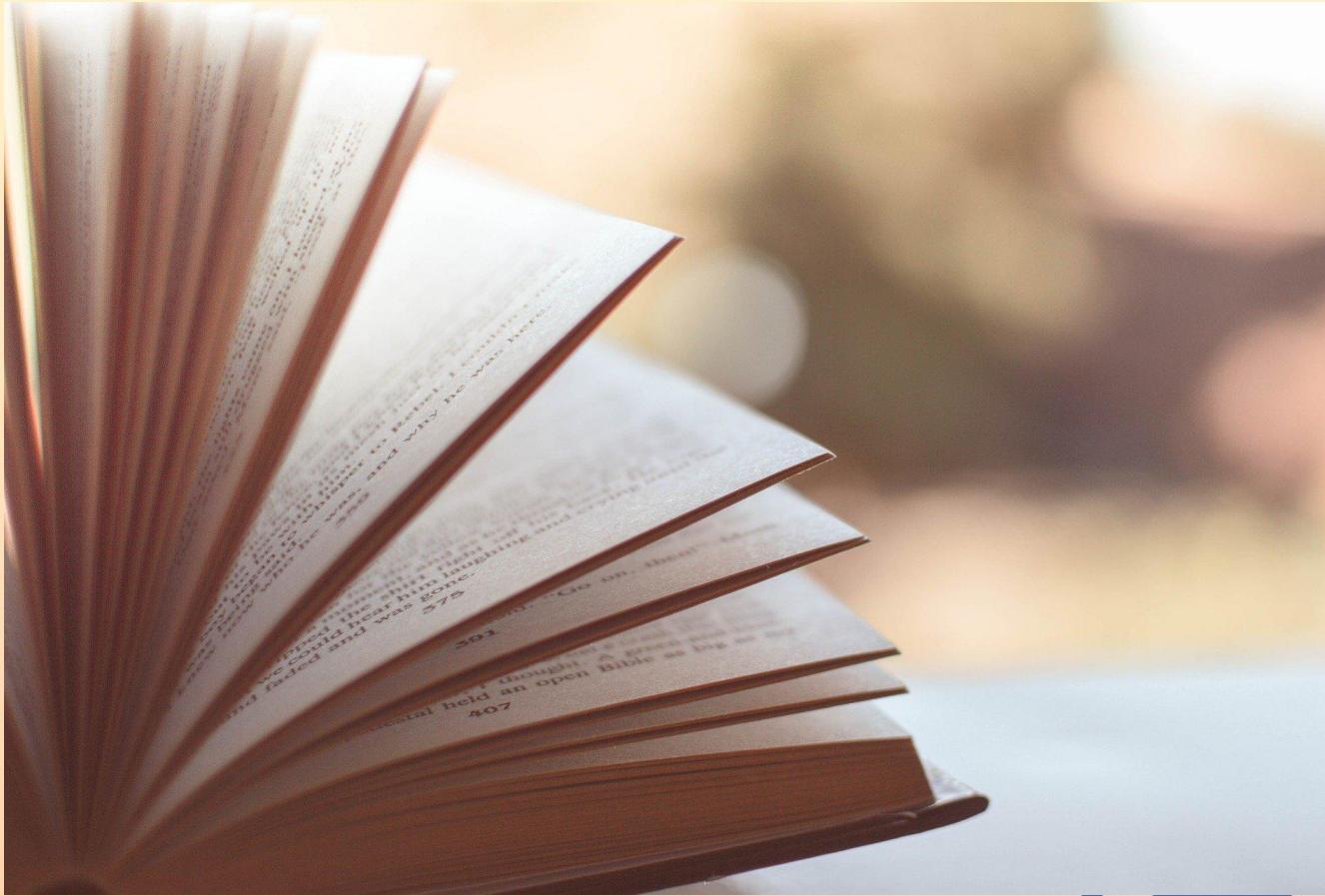
Docs

Mentorship



<http://git.k8s.io/community/community-membership.md>

Refer to the contributor guide



<http://git.k8s.io/community/contributors/guide>



A Beautiful First-Time Pull Request



Let token create help with joining a master #84591

[Edit](#)**Merged**k8s-ci-robot merged 1 commit into [kubernetes:master](#) from [TheLastProject:feature/print-join-as-admin-command](#) 5 days ago[Conversation 30](#)[Commits 1](#)[Checks 0](#)[Files changed 2](#)[+26 -9](#)

TheLastProject commented 13 days ago • edited

[Contributor](#) + ...**What type of PR is this?**

/kind feature

What this PR does / why we need it:

The kubeadm token create --print-join-command command is very helpful, but doesn't help with adding more masters to your cluster. This adds a --for-master flag which does setup and gives instructions for letting a master join.

Special notes for your reviewer:

This is the first time I am writing any Go code and I am still pretty new to Kubernetes, so this may be very ugly. I am also having trouble actually building Kubernetes on my device:

```
$ make WHAT=cmd/kubeadm
go/build: importGo k8s.io/kubernetes: exit status 1
can't load package: package k8s.io/kubernetes: cannot find module providing package k8s.
```

```
+++ [1031 12:54:41] Building go targets for darwin/amd64:
./vendor/k8s.io/code-generator/cmd/deepcopy-gen
go: finding k8s.io/kubernetes/vendor/k8s.io/code-generator/cmd/deepcopy-gen latest
go: finding k8s.io/kubernetes/vendor/k8s.io/code-generator/cmd latest
go: finding k8s.io/kubernetes/vendor/k8s.io/code-generator latest
go: finding k8s.io/kubernetes/vendor/k8s.io/code-generator latest
```

Reviewers

neolit123

ereslibre

fabriziopandini

Assignees

ereslibre

Labels

approved

area/kubeadm

cncf-cla: yes

kind/feature

lgtm

ok-to-test

priority/backlog

release-note

sig/cluster-lifecycle

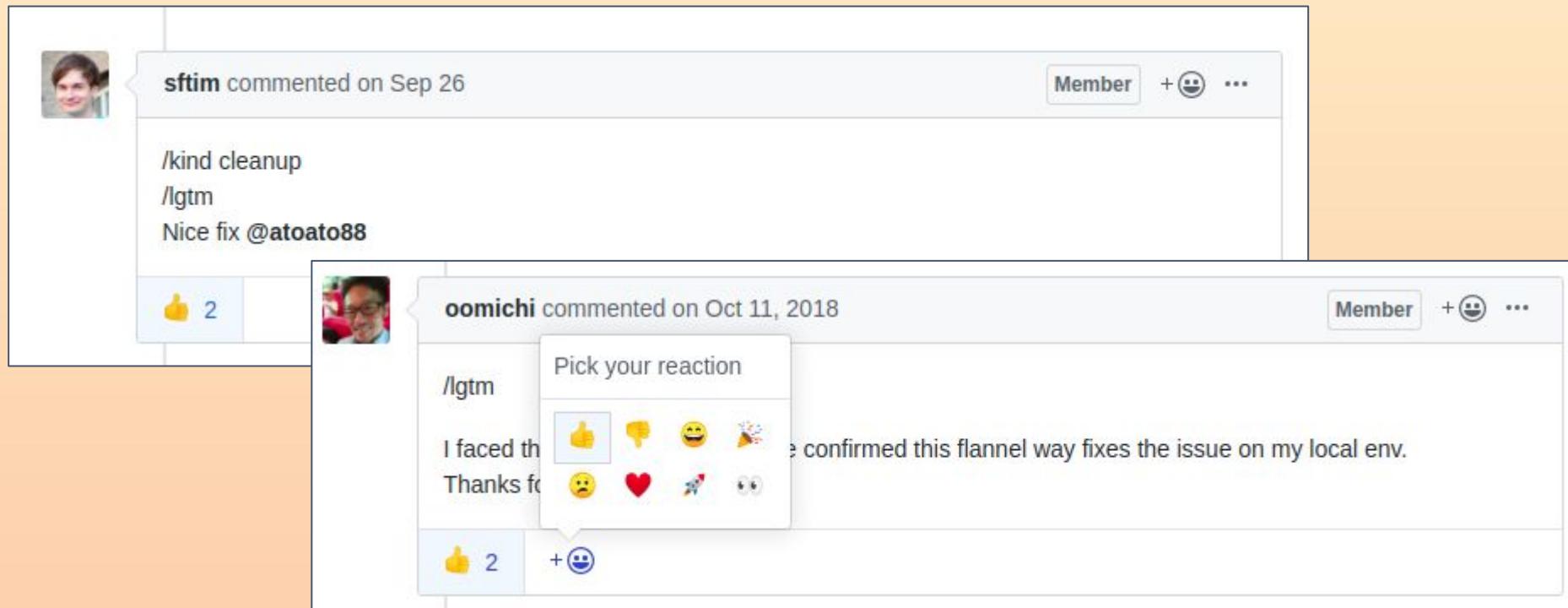
size/M

<https://github.com/kubernetes/kubernetes/pull/84591>

コミュニケーションのTips

コミュニケーションのTips

- 絵文字によるアクションもあります。
 - 文章を考えるまでもない同意など表現を1クリックで行えるので便利です。



コミュニケーションのTips

- Google翻訳を使っていきましょう。
 - GithubやSlack、MLなどコミュニケーションの大半は基本的に英語で行われます。
 - Google翻訳は比較的精度も高く、英文を作るのにとても有用です。
 - 目的は意思疎通をすることです。ツールは便利に使って、積極的に目的を果たしましょう。



コミュニケーションのTips

- 比較的使われる英語表現を列挙します。

- I'm facing the same issue. / 私も同じ問題を経験しています
- ditto / (既に指摘した部分に続いて、) 同上です
- nits / 細かい指摘だけど
- nit: ... / 細かい指摘ですが ...
- PTAL (Please take another look) / 見直して下さい
- WDYT (What do you think?) / どう思いますか？
- LGTM (Looks good to me) / 大丈夫だと思います。
- SGTM (Sounds good to me) / いいと思います。いいね。
- SG (Sounds good) / いいと思います。いいね。
- FYI (For your information) / 参考までに
- _(ツ)_/- (shrug) / 肩をすくめる
- IMHO (In my humble opinion) / つまらない意見ですが、私に言わせていただければ
- TBH (To Be Honest) / 正直に言うと、はっきり言って



kubernetes

CONTRIBUTOR SUMMIT
SAN DIEGO 2019

コミュニケーションのTips

- 1文は短めに。
 - 英語を書こうとすると、長く、読みにくくなりがちですが、伝わりやすさを重視した、短めの文章を心がけましょう。



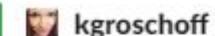
コミュニケーションのTips

- Issue や PR を作ったら GitHub 上でレビュー依頼を出しますが、反応が少ないようであれば Slack で連絡を出すと良いです。
- Slack の #jp-dev や #jp-mentoring も活用してみてください。



shu 08:26

Could you review <https://github.com/kubernetes/org/issues/1663>? This is New membership request for German translator.



kgroschoff

#1663 REQUEST: New membership for kgroschoff
GitHub Username

@kgroschoff

Organization you are requesting membership in

@kubernetes

Requirements

- I have reviewed the community membership guidelines (<https://git.k8s.io/community/community-membership.md>)
- I have enabled 2FA on my GitHub account (<https://github.com/settings/security>)
- I have subscribed to the kubernetes-dev e-mail list (<https://groups.google.com/forum/#!forum/kubernetes-dev>)
- I am actively contributing to 1 or more Kubernetes subprojects
- I have two sponsors that meet the sponsor requirements listed in the community membership guidelines

[もっと表示する](#)

Labels

area/github-membership

Comments

1

 kubernetes/org | 2月27日 | 投稿したメンバー: GitHub



Break - 10 minutes



Hands On

Playground Exercise

Your turn!!!

<https://sigs.k8s.io/contributor-playground>



Playground Exercise

<https://sigs.k8s.io/contributor-playground>

1. Fork and clone
2. Make changes in “**kft-2020/workdir/**” directory
3. Pull request
4. Review/comment/rebase
5. Pay attention to labels and bot prompts

Playground Exercise - Ask reviews

Ask reviews on #jp-dev

example:

@Shu Muto Please review

<https://github.com/kubernetes/kubernetes/pull/79695>

Reviewers list on k8s slack

@akihito-inou(atoato88)

@s-ito

@Shu Muto

@toyoda



Playground Exercise

```
$ git clone https://github.com/foo/contributor-playground  
$ cd contributor-playground  
$ git remote add upstream https://github.com/kubernetes-sigs/contributor-playground  
$ git remote set-url --push upstream no_push  
  
$ git remote -v  
origin https://github.com/foo/contributor-playground (fetch)  
origin https://github.com/foo/contributor-playground (push)  
upstream https://github.com/kubernetes-sigs/contributor-playground (fetch)  
upstream no_push (push)
```

Playground Exercise

```
$ cd kft-2020/workdir/  
$ git checkout -b add_foo_md  
$ vi foo.md  
$ git add foo.md  
$ git commit -m "Add foo.md"
```

```
$ git fetch upstream  
$ git rebase upstream/master  
$ git push origin add_foo_md
```



Playground Exercise

access <https://github.com/kubernetes-sigs/contributor-playground>

create PR

ask reviews on slack #jp-dev



Playground Exercise

- ハンズオンで実行したコマンド

https://github.com/kubernetes-sigs/contributor-playground/blob/master/kft-2020/hands_on.md

- ご質問は、slack の **#jp-mentoring** まで

- PR のレビュー依頼は、slack の **#jp-dev** まで

@akihito-inou(atoato88)

@s-ito

@Shu Muto

@toyoda





Thank you, and
welcome aboard!



Appendix01



Building Binaries

Build and modify the kubectl binary, and use it against a locally deployed cluster



Building Binaries: Prerequisites

[go1.13.4 or later](#)

[kubernetes/kubernetes repo](#)

KinD

```
GO111MODULE="on"; go get sigs.k8s.io/kind@v0.6.0  
export PATH=$PATH:$GOPATH/bin
```

Modifying Kubectl

Open the file

cmd/kubectl/kubectl.go

with your preferred text editor.

Add “fmt” to the imports

After ~line 38

```
command := cmd.NewDefaultKubectlCommand()
```

add a print statement

```
fmt.Println("Alpacas are fluffy")
```

Building the modified kubectl

```
$make WHAT=cmd/kubectl
```

Using The Binary

Deploy a cluster using KinD

```
kind create cluster \  
--image=kubecon.goharbor.io/contribsummit/kindest/node:v1.16.3
```

Run the binary you built against the cluster!

```
./_output/bin/kubectl get po
```



Using The Binary

```
usage: kubectl [options] <cmd> [args...]
alison@MacBook-Pro ~% kubectl get po
o hallo
No resources found in default namespace.
```



Make Targets

- ‘make WHAT=cmd/kubectl’
 - build kubectl for your host OS/arch
- ‘KUBE_BUILD_PLATFORMS=windows/amd64 \
 make WHAT=cmd/kubectl’
 - build kubectl for windows/amd64
- ‘make help’: info on make targets

Make Targets: Try it...build kubectl!

1. Edit cmd/kubectl/kubectl.go
2. Add a “hello world” print out in “func main()”, eg:
`fmt.Println("Hello Kubernetes!")`
3. Build:
`make WHAT=cmd/kubectl`
4. New binary?
`ls -al _output/local/go/bin/kubectl`
5. Run your binary:
`cd ._output/local/go/bin`
`./kubectl version`



Appendix02



kubernetes

```
@guin:kubernetes (master) 🐧 tree -d -L 1
.
├── Godeps
└── _output
├── _tmp
├── api
├── build
├── cluster
├── cmd
├── docs
├── hack
├── logo
├── pkg
├── plugin
├── staging
├── test
├── third_party
├── translations
└── vendor
```



kubernetes

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kubernetes

```
[@guin:kubernetes (master) 🦉 tree -d -L 1
.
├── Godeps
├── _output
├── _tmp
└── api
    └── ...
  ...
  ├── build
  ├── cluster
  ├── cmd
  ├── docs
  ├── hack
  ├── logo
  ├── pkg
  ├── plugin
  ├── staging
  ├── test
  ├── third_party
  ├── translations
  └── vendor
```



kubernetes CONTRIBUTOR SUMMIT
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kubernetes

```
[@guin:kubernetes (master) 🐧 tree -d -L 1
```

```
.
├── Godeps
├── _output
├── _tmp
├── api
└── build
    └── cluster
    └── cmd
    └── docs
    └── hack
    └── logo
    └── pkg
    └── plugin
    └── staging
    └── test
    └── third_party
    └── translations
    └── vendor
```



kubernetes

```
[@guin:kubernetes (master) 🐧 tree -d -L 1
```

```
.  
├── Godeps  
├── _output  
├── _tmp  
├── api  
├── build  
├── cluster  
└── cmd  
├── docs  
├── hack  
├── logo  
├── pkg  
├── plugin  
├── staging  
├── test  
├── third_party  
├── translations  
└── vendor
```



kubernetes

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kubernetes

```
[@guin:kubernetes (master) 🐧 tree -d -L 1
```

```
.  
├── Godeps  
├── _output  
├── _tmp  
├── api  
├── build  
├── cluster  
└── cmd  
    └── docs  
├── hack  
├── logo  
├── pkg  
├── plugin  
├── staging  
├── test  
├── third_party  
├── translations  
└── vendor
```



kubernetes CONTRIBUTOR SUMMIT
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kubernetes

```
[@guin:kubernetes (master) 🐧 tree -d -L 1
```

```
.
├── Godeps
├── _output
├── _tmp
├── api
├── build
├── cluster
├── cmd
└── docs
  └── ...
├── hack
├── logo
├── pkg
├── plugin
├── staging
├── test
├── third_party
├── translations
└── vendor
```



kubernetes CONTRIBUTOR SUMMIT
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kubernetes

```
[@guin:kubernetes (master) 🐧 tree -d -L 1
```

```
.
├── Godeps
├── _output
├── _tmp
├── api
└── build
├── cluster
├── cmd
├── docs
└── hack
├── logo
├── pkg
├── plugin
├── staging
├── test
├── third_party
├── translations
└── vendor
```



kubernetes

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kubernetes

```
[@guin:kubernetes (master) 🐧 tree -d -L 1
```

```
.
├── Godeps
├── _output
├── _tmp
├── api
├── build
├── cluster
├── cmd
├── docs
├── hack
└── logo
    └── kubernetes
        ├── logo
        └── logo.svg
```



kubernetes CONTRIBUTOR SUMMIT
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kubernetes

```
[@guin:kubernetes (master) 🐧 tree -d -L 1
```

```
.
├── Godeps
├── _output
├── _tmp
├── api
├── build
├── cluster
├── cmd
├── docs
├── hack
├── logo
└── pkg
    └── red circle
    └── plugin
    └── staging
    └── test
    └── third_party
    └── translations
    └── vendor
```



kubernetes

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kubernetes/pkg

- .
- └── BUILD
- └── OWNERS
- └── **api**
- └── **apis**
- └── auth
- └── capabilities
- └── client
- └── cloudprovider
- └── controller
- └── credentialprovider
- └── features
- └── fieldpath
- └── generated
- └── kubeapiserver
- └── kubectl
- └── kubelet
- └── kubemark
- └── master

A Shortcut To /staging



A Shortcut To /staging

/pkg:

- /api
- /apis

/staging/src/k8s.io

- /api/core/v1
- api

/pkg/apis vs /staging/src/k8s.io/api

```
@guin:apis (master) 🐧 tree -L 1
```

```
.  
--- OWNERS  
--- abac  
--- admission  
--- admissionregistration  
--- apps  
--- auditregistration  
--- authentication  
--- authorization  
--- autoscaling  
--- batch  
--- certificates  
--- coordination  
--- core  
--- events  
--- extensions  
--- imagepolicy  
--- networking  
--- node  
--- policy  
--- rbac  
--- scheduling  
--- settings  
--- storage
```

```
@guin:api (master) 🐧 tree -d -L 1
```

```
.  
--- Godeps  
--- admission  
--- admissionregistration  
--- apps  
--- auditregistration  
--- authentication  
--- authorization  
--- autoscaling  
--- batch  
--- certificates  
--- coordination  
--- core  
--- events  
--- extensions  
--- imagepolicy  
--- networking  
--- node  
--- policy  
--- rbac  
--- scheduling  
--- settings  
--- storage  
--- testdata
```



kubernetes/pkg

- .
- └── BUILD
- └── OWNERS
- └── **api**
- └── **apis**
- └── auth
- └── capabilities
- └── client
- └── cloudprovider
- └── controller
- └── credentialprovider
- └── features
- └── fieldpath
- └── generated
- └── kubeapiserver
- └── kubectl
- └── kubelet
- └── kubemark
- └── master

kubernetes/pkg

- .
- └── BUILD
- └── OWNERS
- └── api
- └── apis
- └── auth
- └── capabilities
- └── client
- └── cloudprovider
- └── controller
- └── credentialprovider
- └── features
- └── fieldpath
- └── generated
- └── kubeapiserver
- └── kubectl
- └── kubelet
- └── kubemark
- └── master

kubernetes/pkg

- .
- └── BUILD
- └── OWNERS
- └── api
- └── apis
- └── auth
- └── capabilities
- └── client
- └── **cloudprovider**
- └── controller
- └── credentialprovider
- └── features
- └── fieldpath
- └── generated
- └── kubeapiserver
- └── kubectl
- └── kubelet
- └── kubemark
- └── master

kubernetes/pkg

- .
- └── BUILD
- └── OWNERS
- └── api
- └── apis
- └── auth
- └── capabilities
- └── client
- └── cloudprovider
- └── **controller**
- └── credentialprovider
- └── features
- └── fieldpath
- └── generated
- └── kubeapiserver
- └── kubectl
- └── kubelet
- └── kubemark
- └── master

kubernetes/pkg/controller

Here lives the code that runs all the
Kubernetes objects.



kubernetes/pkg

- .
- └── BUILD
- └── OWNERS
- └── api
- └── apis
- └── auth
- └── capabilities
- └── client
- └── cloudprovider
- └── controller
- └── credentialprovider
- └── features
- └── fieldpath
- └── generated
- └── kubeapiserver
- └── kubectl
- └── kubelet
- └── kubemark
- └── master

kubernetes/pkg

- .
- └── BUILD
- └── OWNERS
- └── api
- └── apis
- └── auth
- └── capabilities
- └── client
- └── cloudprovider
- └── controller
- └── credentialprovider
- └── **features**
- └── fieldpath
- └── generated
- └── kubeapiserver
- └── kubectl
- └── kubelet
- └── kubemark
- └── master

kubernetes/pkg

- .
- └── BUILD
- └── OWNERS
- └── api
- └── apis
- └── auth
- └── capabilities
- └── client
- └── cloudprovider
- └── controller
- └── credentialprovider
- └── features
- └── fieldpath
- └── generated
- └── kubeapiserver
- └── kubectl
- └── kubelet
- └── kubemark
- └── master

kubernetes/pkg

- .
- └── BUILD
- └── OWNERS
- └── api
- └── apis
- └── auth
- └── capabilities
- └── client
- └── cloudprovider
- └── controller
- └── credentialprovider
- └── features
- └── fieldpath
- └── generated
- └── kubeapiserver
- └── **kubectl** *(circled)*
- └── kubelet
- └── kubemark
- └── master

kubernetes/pkg

- .
- └── BUILD
- └── OWNERS
- └── api
- └── apis
- └── auth
- └── capabilities
- └── client
- └── cloudprovider
- └── controller
- └── credentialprovider
- └── features
- └── fieldpath
- └── generated
- └── kubeapiserver
- └── kubectl
- └── **kubelet**
- └── kubemark
- └── master

kubernetes/pkg

- .
- └── BUILD
- └── OWNERS
- └── api
- └── apis
- └── auth
- └── capabilities
- └── client
- └── cloudprovider
- └── controller
- └── credentialprovider
- └── features
- └── fieldpath
- └── generated
- └── kubeapiserver
- └── kubectl
- └── kubelet
- └── **kubemark**
- └── master

kubernetes/pkg

- .
- └── BUILD
- └── OWNERS
- └── api
- └── apis
- └── auth
- └── capabilities
- └── client
- └── cloudprovider
- └── controller
- └── credentialprovider
- └── features
- └── fieldpath
- └── generated
- └── kubeapiserver
- └── kubectl
- └── kubelet
- └── kubemark
- └── master

kubernetes/pkg

- kubelet
- kubemark
- master
- **printers**
- probe
- proxy
- quota
- registry
- routes
- scheduler
- security
- securitycontext
- serviceaccount
- ssh
- util
- volume
- watch
- windows



kubernetes/pkg

```
└── kubelet
└── kubemark
└── master
└── printers
└── probe
proxy
└── quota
└── registry
└── routes
└── scheduler
└── security
└── securitycontext
└── serviceaccount
└── ssh
└── util
└── volume
└── watch
└── windows
```



kubernetes/pkg

```
└── kubelet
└── kubemark
└── master
└── printers
└── probe
└── proxy
└── quota
    quota
└── registry
└── routes
└── scheduler
└── security
└── securitycontext
└── serviceaccount
└── ssh
└── util
└── volume
└── watch
└── windows
```

kubernetes/pkg

- kubelet
- kubemark
- master
- printers
- probe
- proxy
- quota
- **registry**
- routes
- scheduler
- security
- securitycontext
- serviceaccount
- ssh
- util
- volume
- watch
- windows



kubernetes/pkg

- kubelet
- kubemark
- master
- printers
- probe
- proxy
- quota
- registry
- routes
- **scheduler**
- security
- securitycontext
- serviceaccount
- ssh
- util
- volume
- watch
- windows



kubernetes/pkg

- kubelet
- kubemark
- master
- printers
- probe
- proxy
- quota
- registry
- routes
- scheduler
- **security**
- securitycontext
- serviceaccount
- ssh
- util
- volume
- watch
- windows



kubernetes/pkg

- kubelet
- kubemark
- master
- printers
- probe
- proxy
- quota
- registry
- routes
- scheduler
- security
- **securitycontext**
- serviceaccount
- ssh
- util
- volume
- watch
- windows



kubernetes/pkg

```
└── kubelet
└── kubemark
└── master
└── printers
└── probe
└── proxy
└── quota
└── registry
└── routes
└── scheduler
└── security
└── securitycontext
└── serviceaccount
└── ssh
└── util
└── volume
└── watch
└── windows
```

kubernetes/pkg

```
└── kubelet
└── kubemark
└── master
└── printers
└── probe
└── proxy
└── quota
└── registry
└── routes
└── scheduler
└── security
└── securitycontext
└── serviceaccount
└── ssh
└── util
└── volume
└── watch
└── windows
```

kubernetes/pkg

- kubelet
- kubemark
- master
- printers
- probe
- proxy
- quota
- registry
- routes
- scheduler
- security
- securitycontext
- serviceaccount
- ssh
- util
- volume
- watch
- windows

kubernetes/pkg

```
└── kubelet
└── kubemark
└── master
└── printers
└── probe
└── proxy
└── quota
└── registry
└── routes
└── scheduler
└── security
└── securitycontext
└── serviceaccount
└── ssh
└── util
└── volume
└── watch
└── windows
```



kubernetes/pkg

- kubelet
- kubemark
- master
- printers
- probe
- proxy
- quota
- registry
- routes
- scheduler
- security
- securitycontext
- serviceaccount
- ssh
- util
- volume
- watch
- windows

kubernetes

```
[@guin:kubernetes (master) 🐧 tree -d -L 1
```

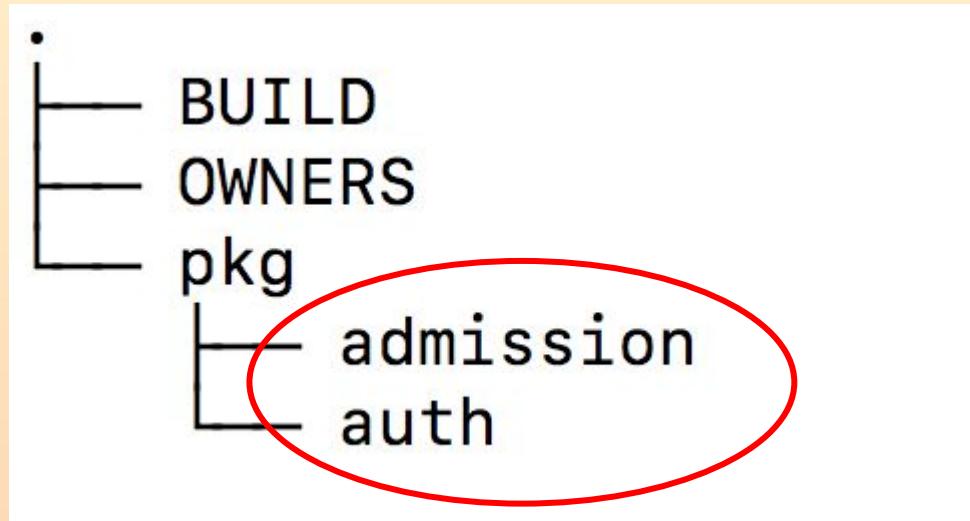
```
•
├── Godeps
├── _output
├── _tmp
├── api
├── build
├── cluster
├── cmd
├── docs
├── hack
├── logo
├── pkg
└── plugin
    ┌── ...
    └── ...
├── staging
├── test
├── third_party
├── translations
└── vendor
```



kubernetes

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kubernetes/plugin



kubernetes

```
[@guin:kubernetes (master) 🐧 tree -d -L 1
```

```
.
├── Godeps
├── _output
├── _tmp
├── api
├── build
├── cluster
├── cmd
├── docs
├── hack
├── logo
├── pkg
├── plugin
└── staging (1)
├── test
├── third_party
├── translations
└── vendor
```



kubernetes

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kubernetes/staging/src/k8s.io

```
.  
+- api  
+- apiextensions-apiserver    
+- apimachinery  
+- apiserver  
+- cli-runtime  
+- client-go  
+- cloud-provider  
+- cluster-bootstrap  
+- code-generator  
+- component-base  
+- cri-api  
+- csi-translation-lib  
+- kube-aggregator  
+- kube-controller-manager  
+- kube-proxy  
+- kube-scheduler  
+- kubectl  
+- kubelet  
+- legacy-cloud-providers  
+- metrics  
+- node-api  
+- sample-apiserver  
+- sample-cli-plugin  
+- sample-controller
```



kubernetes

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kubernetes/staging/src/k8s.io

```
.  
  api  
  apiextensions-apiserver  
  apimachinery (red circle)  
  apiserver  
  cli-runtime  
  client-go  
  cloud-provider  
  cluster-bootstrap  
  code-generator  
  component-base  
  cri-api  
  csi-translation-lib  
  kube-aggregator  
  kube-controller-manager  
  kube-proxy  
  kube-scheduler  
  kubectl  
  kubelet  
  legacy-cloud-providers  
  metrics  
  node-api  
  sample-apiserver  
  sample-cli-plugin  
  sample-controller
```

kubernetes/staging/src/k8s.io

```
.  
|- api  
|- apiextensions-apiserver  
|- apimachinery  
|- apiserver  
|- cli-runtime    
|- client-go  
|- cloud-provider  
|- cluster-bootstrap  
|- code-generator  
|- component-base  
|- cri-api  
|- csi-translation-lib  
|- kube-aggregator  
|- kube-controller-manager  
|- kube-proxy  
|- kube-scheduler  
|- kubectl  
|- kubelet  
|- legacy-cloud-providers  
|- metrics  
|- node-api  
|- sample-apiserver  
|- sample-cli-plugin  
|- sample-controller
```



kubernetes

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kubernetes/staging/src/k8s.io

```
.  
|- api  
|- apiextensions-apiserver  
|- apimachinery  
|- apiserver  
|- cli-runtime  
|- client-go    
|- cloud-provider  
|- cluster-bootstrap  
|- code-generator  
|- component-base  
|- cri-api  
|- csi-translation-lib  
|- kube-aggregator  
|- kube-controller-manager  
|- kube-proxy  
|- kube-scheduler  
|- kubectl  
|- kubelet  
|- legacy-cloud-providers  
|- metrics  
|- node-api  
|- sample-apiserver  
|- sample-cli-plugin  
|- sample-controller
```



kubernetes

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kubernetes/staging/src/k8s.io

```
.  
|- api  
|- apiextensions-apiserver  
|- apimachinery  
|- apiserver  
|- cli-runtime  
|- client-go  
|- cloud-provider    
|- cluster-bootstrap  
|- code-generator  
|- component-base  
|- cri-api  
|- csi-translation-lib  
|- kube-aggregator  
|- kube-controller-manager  
|- kube-proxy  
|- kube-scheduler  
|- kubectl  
|- kubelet  
|- legacy-cloud-providers  
|- metrics  
|- node-api  
|- sample-apiserver  
|- sample-cli-plugin  
|- sample-controller
```

kubernetes/staging/src/k8s.io

```
.  
|- api  
|- apiextensions-apiserver  
|- apimachinery  
|- apiserver  
|- cli-runtime  
|- client-go  
|- cloud-provider  
|- cluster-bootstrap (red circle)  
|- code generator  
|- component-base  
|- cri-api  
|- csi-translation-lib  
|- kube-aggregator  
|- kube-controller-manager  
|- kube-proxy  
|- kube-scheduler  
|- kubectl  
|- kubelet  
|- legacy-cloud-providers  
|- metrics  
|- node-api  
|- sample-apiserver  
|- sample-cli-plugin  
|- sample-controller
```

kubernetes/staging/src/k8s.io

```
.
```

- |-- api
- |-- apiextensions-apiserver
- |-- apimachinery
- |-- apiserver
- |-- cli-runtime
- |-- client-go
- |-- cloud-provider
- |-- cluster-bootstrap
- | └── **code-generator**
- |-- component-base
- |-- cri-api
- |-- csi-translation-lib
- |-- kube-aggregator
- |-- kube-controller-manager
- |-- kube-proxy
- |-- kube-scheduler
- |-- kubectl
- |-- kubelet
- |-- legacy-cloud-providers
- |-- metrics
- |-- node-api
- |-- sample-apiserver
- |-- sample-cli-plugin
- |-- sample-controller

kubernetes/staging/src/k8s.io

```
.
```

- |-- api
- |-- apiextensions-apiserver
- |-- apimachinery
- |-- apiserver
- |-- cli-runtime
- |-- client-go
- |-- cloud-provider
- |-- cluster-bootstrap
- |-- code-generator
- | └── component-base | |
- |-- cri-api
- |-- csi-translation-lib
- |-- kube-aggregator
- |-- kube-controller-manager
- |-- kube-proxy
- |-- kube-scheduler
- |-- kubectl
- |-- kubelet
- |-- legacy-cloud-providers
- |-- metrics
- |-- node-api
- |-- sample-apiserver
- |-- sample-cli-plugin
- |-- sample-controller

kubernetes/staging/src/k8s.io

```
.
```

- |-- api
- |-- apiextensions-apiserver
- |-- apimachinery
- |-- apiserver
- |-- cli-runtime
- |-- client-go
- |-- cloud-provider
- |-- cluster-bootstrap
- |-- code-generator
- |-- component-base
- | └── cri-api
- |-- csi-translation-lib
- |-- kube-aggregator
- |-- kube-controller-manager
- |-- kube-proxy
- |-- kube-scheduler
- |-- kubectl
- |-- kubelet
- |-- legacy-cloud-providers
- |-- metrics
- |-- node-api
- |-- sample-apiserver
- |-- sample-cli-plugin
- |-- sample-controller

kubernetes/staging/src/k8s.io

```
.
```

- |-- api
- |-- apiextensions-apiserver
- |-- apimachinery
- |-- apiserver
- |-- cli-runtime
- |-- client-go
- |-- cloud-provider
- |-- cluster-bootstrap
- |-- code-generator
- |-- component-base
- |-- cri-api
- | └── csi-translation-lib (highlighted)
- | └── kube-aggregator (highlighted)
- |-- kube-controller-manager
- |-- kube-proxy
- |-- kube-scheduler
- |-- kubectl
- |-- kubelet
- |-- legacy-cloud-providers
- |-- metrics
- |-- node-api
- |-- sample-apiserver
- |-- sample-cli-plugin
- |-- sample-controller

kubernetes/staging/src/k8s.io

```
.
```

- |-- api
- |-- apiextensions-apiserver
- |-- apimachinery
- |-- apiserver
- |-- cli-runtime
- |-- client-go
- |-- cloud-provider
- |-- cluster-bootstrap
- |-- code-generator
- |-- component-base
- |-- cri-api
- |-- csi-translation-lib
- | └── kube-aggregator (red circle)
- |-- kube-controller-manager
- |-- kube-proxy
- |-- kube-scheduler
- |-- kubectl
- |-- kubelet
- |-- legacy-cloud-providers
- |-- metrics
- |-- node-api
- |-- sample-apiserver
- |-- sample-cli-plugin
- |-- sample-controller

kubernetes/staging/src/k8s.io

```
.
```

- └── api
- └── apiextensions-apiserver
- └── apimachinery
- └── apiserver
- └── cli-runtime
- └── client-go
- └── cloud-provider
- └── cluster-bootstrap
- └── code-generator
- └── component-base
- └── cri-api
- └── csi-translation-lib
- └── kube-aggregator
- └── **kube-controller-manager**
- └── kube-proxy
- └── kube-scheduler
- └── kubectl
- └── kubelet
- └── legacy-cloud-providers
- └── metrics
- └── node-api
- └── sample-apiserver
- └── sample-cli-plugin
- └── sample-controller

kubernetes/staging/src/k8s.io

```
.  
|- api  
|- apiextensions-apiserver  
|- apimachinery  
|- apiserver  
|- cli-runtime  
|- client-go  
|- cloud-provider  
|- cluster-bootstrap  
|- code-generator  
|- component-base  
|- cri-api  
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|- kube-aggregator  
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|- kube-proxy  
|- kube-scheduler  
|- kubectl  
|- kubelet  
|- legacy-cloud-providers  
|- metrics  
|- node-api  
|- sample-apiserver  
|- sample-cli-plugin  
|- sample-controller
```



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kubernetes/staging/src/k8s.io

```
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```

- |-- api
- |-- apiextensions-apiserver
- |-- apimachinery
- |-- apiserver
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- |-- node-api
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kubernetes/staging/src/k8s.io

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kubernetes/staging/src/k8s.io

```
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kubernetes

```
[@guin:kubernetes (master) 🐧 tree -d -L 1
```

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.
├── Godeps
├── _output
├── _tmp
├── api
├── build
├── cluster
├── cmd
├── docs
├── hack
├── logo
├── pkg
├── plugin
├── staging
└── test  
├── third_party
├── translations
└── vendor
```



A Side Tour To Test-Infra

README.md



Prow is a Kubernetes based CI/CD system. Jobs can be triggered by various types of events and report their status to many different services. In addition to job execution, Prow provides GitHub automation in the form of policy enforcement, chat-ops via `/foo` style commands, and automatic PR merging.

See the [GoDoc](#) for library docs. Please note that these libraries are intended for use by prow only, and we do not make any attempt to preserve backwards compatibility.

For a brief overview of how Prow runs jobs take a look at "[Life of a Prow Job](#)".

To see common Prow usage and interactions flow, see the pull request interactions [sequence diagram](#).

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```

```
•
├── Godeps
├── _output
├── _tmp
├── api
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├── cluster
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├── logo
├── pkg
├── plugin
├── staging
├── test
└── third_party
    └── translations
└── vendor
```



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```



kubernetes

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[@guin:kubernetes (master) 🐧 tree -d -L 1
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└── translations
  └── vendor
```



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LUNCH BREAK!



WELCOME BACK



kubectl



Kube Control Kube Cuddle

Credit: [@datamattsson](#) on twitter



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