



Kubernetes Upstream Training

in Japan

※本トレーニングは、Kubernetes Contributor Summit SanDiego 2019 の
NewContributorWorkshop の資料をベースに日本向けに再構成、更新したものです。

はじめに

事前課題

- 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/japan/assets/attendee-prerequisites.md>
- Kubernetes Slack**の以下に参加しておいてください。
 - #jp-mentoring チャンネル
 - #jp-dev チャンネル
- kubernetes-sigs/contributor-playground** リポジトリの **Fork & Clone**
 - あなたの GitHub アカウントで Fork しておいてください。
 - Fork したリポジトリを使用する PC に Clone しておいてください。

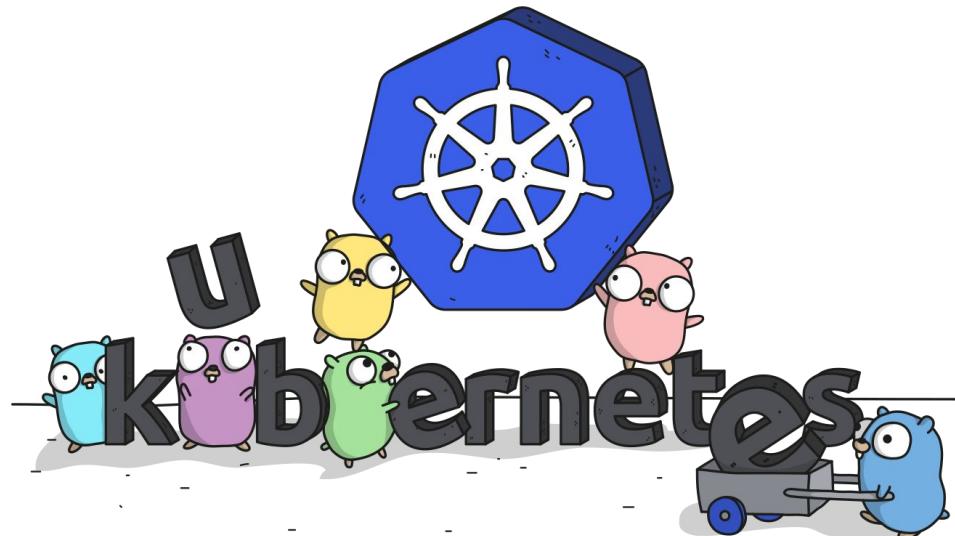
ハンズオンで利用

本トレーニングに関する
質問はこちら



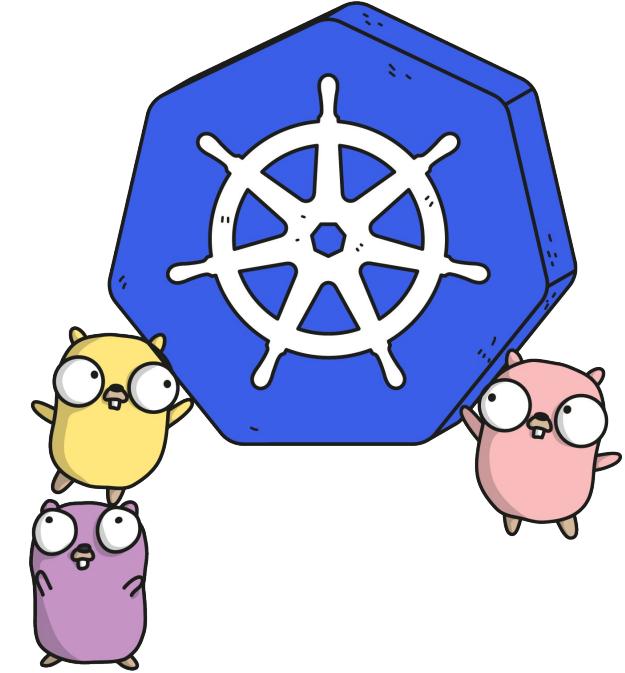
行動規範 Code of Conduct

- 本トレーニングはCNCFの行動規範に従います。
- 概要は以下のとおりです。
 - 参加または貢献するすべての人々を尊重する。
 - あらゆる多様性の側面に関係なく、全員にとってハラスメントがない経験にする。
 - 個人だけではなく、コミュニティ全体として何が最善策かを重視する。
- 下記をご一読ください。
 - <https://github.com/cncf/foundation/blob/main/code-of-conduct-languages/ja.md>



Program

- コントリビューション入門 (25min)
- ハンズオン (40min)
- Break (5min)
- Kubernetes コミュニティ構成 (20min)
- Kubernetes 開発環境 (25min)
- クロージング (5min) ~ 記念撮影
- Total: 120min



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



コントリビューション入門

行動規範とCLA



行動規範 Code of Conduct

「いい人でいましょう」

コミュニティの一員
としてのマインドを持つ

相互に尊敬・尊重しあうことが健全なコラボレーションの前提条件であると考えられているから

K8s git.k8s.io/community/code-of-conduct.md

CNCF <https://github.com/cncf/foundation/blob/main/code-of-conduct.md>

CNCF JP <https://github.com/cncf/foundation/blob/main/code-of-conduct-languages/ja.md>

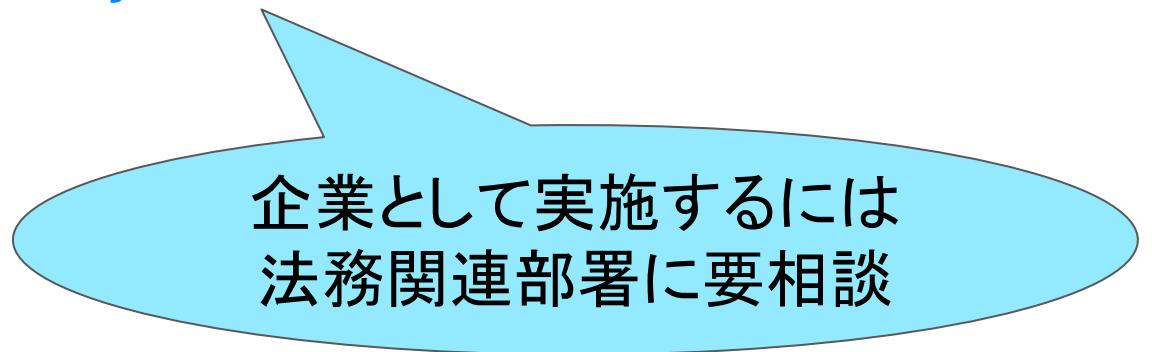


CLA(Contributor License Agreement) について

CLA(Contributor License Agreement)は、OSSプロジェクトに貢献する際に必要な同意書で、貢献したコードやドキュメントの利用条件を明確にするものです。これにより、貢献内容をプロジェクトで自由に使用、改変、配布できる権利が確保され、知的財産権に関する問題に対処できるようになります。

詳細はGitHubのページを参照してください。

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



企業として実施するには
法務関連部署に要相談



コントリビューションの目的 と価値



Open Source Values

世の中に影響を及ぼす

Goal: Get a change into project

Value: Open Innovation based on collaboration

世界中の開発者と共に
知恵を持ち寄って
イノベーションを起こす

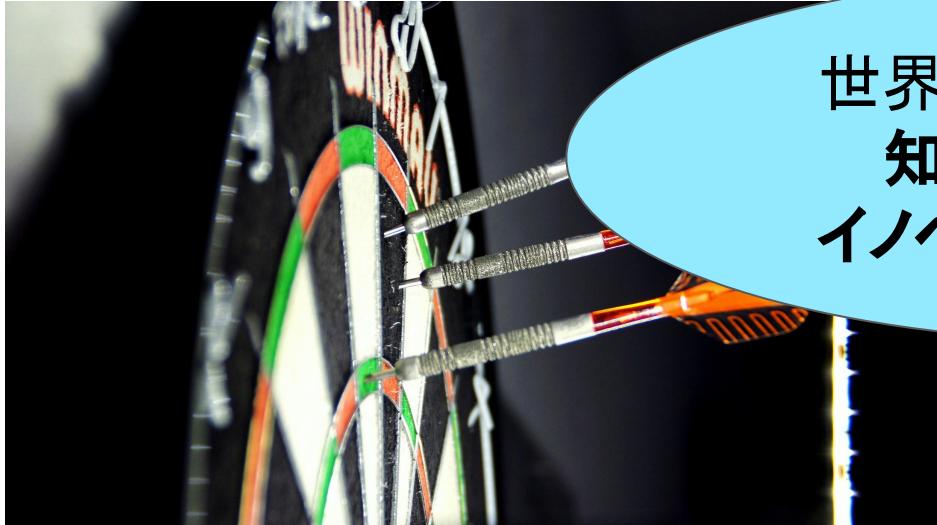


Photo by [Alexander Muzenhardt](#) on [Unsplash](#)



Kubernetes Community Values

Distribution is better than centralization

作業や権限の分散

Community over product or company

垣根を超えた協力体制

Automation over process

持続可能性のための自動化

Inclusive is better than exclusive

協働のための参加者の尊重

Evolution is better than stagnation

持続可能な発展と新陳代謝

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

<https://git.k8s.io/community/values.md>

コミュニティの
文化(土壤)なくして
戦略(種)は実らない



様々なコントリビューションの目的と価値

- 事業貢献(企業として)
 - OSSに関する課題をコミュニティと共に解決する(アップストリームファースト)
 - バグフィックスや機能改善・追加
 - 独自パッチを抱えない(メンテナンスコスト削減)
 - OSSのプロフェッショナルとしての価値向上
 - 業界をリードする
- スキルアップ(企業・個人として)
 - 技術だけでなく、コミュニケーション やリーダーシップ も向上する
- オープンでグローバルな実績(企業・個人として)
 - 社会や業界への貢献 になる
 - 評判が高まる
- 動向の把握
 - 社外コミュニティにいることで自動的に世の中の情報が手に入る
 - 情報を把握し続けることによる流れが把握できる
 - 洞察力が向上 する



様々なコントリビューション と進め方



コントリビューションの種類

Code contributions

reviewing

- Issue作成、コメント追記
 - バグ報告
 - 機能要望
- PR作成、レビュー
 - コーディング
 - 動作確認とその報告

コード貢献

Docs



コードだけじゃない貢献

- 最新の実装への追随
- 日本語訳

Community Groups

Mentorship

- コミュニティの維持・活性化



コントリビューション内容の検討・議論

- 既存の課題(**GitHub Issue/PR**)をラベルを使って探す
 - 同じ課題を抱えている人を探す: 同意によって課題の重要度を上げる
 - SIG や Area のラベルで探す: 技術領域で現在の課題を探す
 - 簡単とされているものを探す: まずはやってみる場合
 - `good first issue` や `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>
- アイデアや課題をコントリビューターと議論する
 - SIG に相談する: [community/sig-list.md](#)
 - **Slack**、ML、ミーティング([録画あり](#))
 - イベントやミートアップの場でF2Fで議論する
 - コミュニケーションチャンネル: [kubernetes.io/community](#)
 - **GitHub Issue** を作成して議論する



Slack

Register here: slack.k8s.io

ユーザー向け

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

contriビューター向け

- [#kubernetes-dev](#)
- [#pr-reviews](#)
- [#sig-contribex](#)

日本人ユーザー向け

- [#jp-users](#)
- [#jp-users-novice](#)
- [#jp-events](#)



日本語
OK

日本人contriビューター向け

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



F2F: Events and Meetups

- Global
 - KubeCon + CloudNativeCon [NA](#) / [EU](#)
 - CNCF Maintainer Summit
- Japan
 - [KubeCon + CloudNativeCon Japan](#)
 - [KubeDay Japan](#)
 - [CNCF Cloud Native Community Japan](#) (CNCJ)
 - [Kubernetes Meetup Tokyo](#)



コントリビューションの障壁 と克服



様々な障壁とその克服 グローバル問題

- 距離(時間的、空間的)
 - タイムゾーンの違い、F2Fの困難さ
 - チャット、メール、リモート会議
 - 焦らない・焦ってもしょうがない
- 文化や民族性
 - 「思い込み」や「一般的な誤解」の排除(差別禁止)
 - 「違い」があることを意識する
 - 「同じ地球人、コミュニティメンバー」へのマインドチェンジ
- 英語
 - 苦手意識、考えや想いが伝わるかの不安
 - 慣れ(度胸)と学習
 - 時間や手間がかかる
 - ツールの活用



時間や時期

オープンソースの開発速度は速い、と言われるが…

それぞれのアクションに時間がかかる：タイミングに依存する

- 品質 対 スピード
- 分散型の合意形成：誰がコメントしてくれるか不透明
- 会話が世界を一周する：返事は1日待つ必要性
- コードがマージされる時期：開発サイクルによる
 - K8sの場合：<https://kubernetes.io/releases/release/>



英語コミュニケーションのコツ

目的は意思疎通であり、流暢に英語を使うことではない

- ツールは便利に使う
 - [Google翻訳](#)、[DeepL](#): 翻訳
 - [Grammarly](#): 文法
 - [ChatGPT](#)などの生成AIも大いに助けになるでしょう
- シンプルな表現を心がける
 - 伝わりやすさを重視した、**短い文章や箇条書きの活用**を心がける
 - 絵文字による**簡単な応答**(👍💯)や**感情表現**(😊😊👤)のサポート
 - **チャット略語**(ditto, nits, PTAL, WDYT, SGTM, IMHO, etc.)
- 英語ネイティブの人ばかりではない

みんな良い人(悩みも同じ)なので、臆することはありません！！！



Hands On

様々な障壁とその克服 社内理解

- オープンソースの価値の理解、浸透
 - 仕事として活動するには社内の理解が必要になる
 - 上司の説得: OSSの価値と企業としての必要性
 - 公開されている他社やLinux Foundationの情報を参考にする
 - 生成AIにまとめてもらう
- 時間・予算のルールの確認や定義
 - 勤務時間の中での活動が許可されるか
 - 社内規定の確認
 - アーティファクトの社外公開(社外発表)の方法を確認する
 - 事業やプロジェクト、部門の課題として認知されるか
 - 業務内容として定義する
 - OSSリスク費(見積)、研修・学習、etc.
 - 課題解決方法として「コントリビューション」が採用されるか
 - 解決方法として定義する



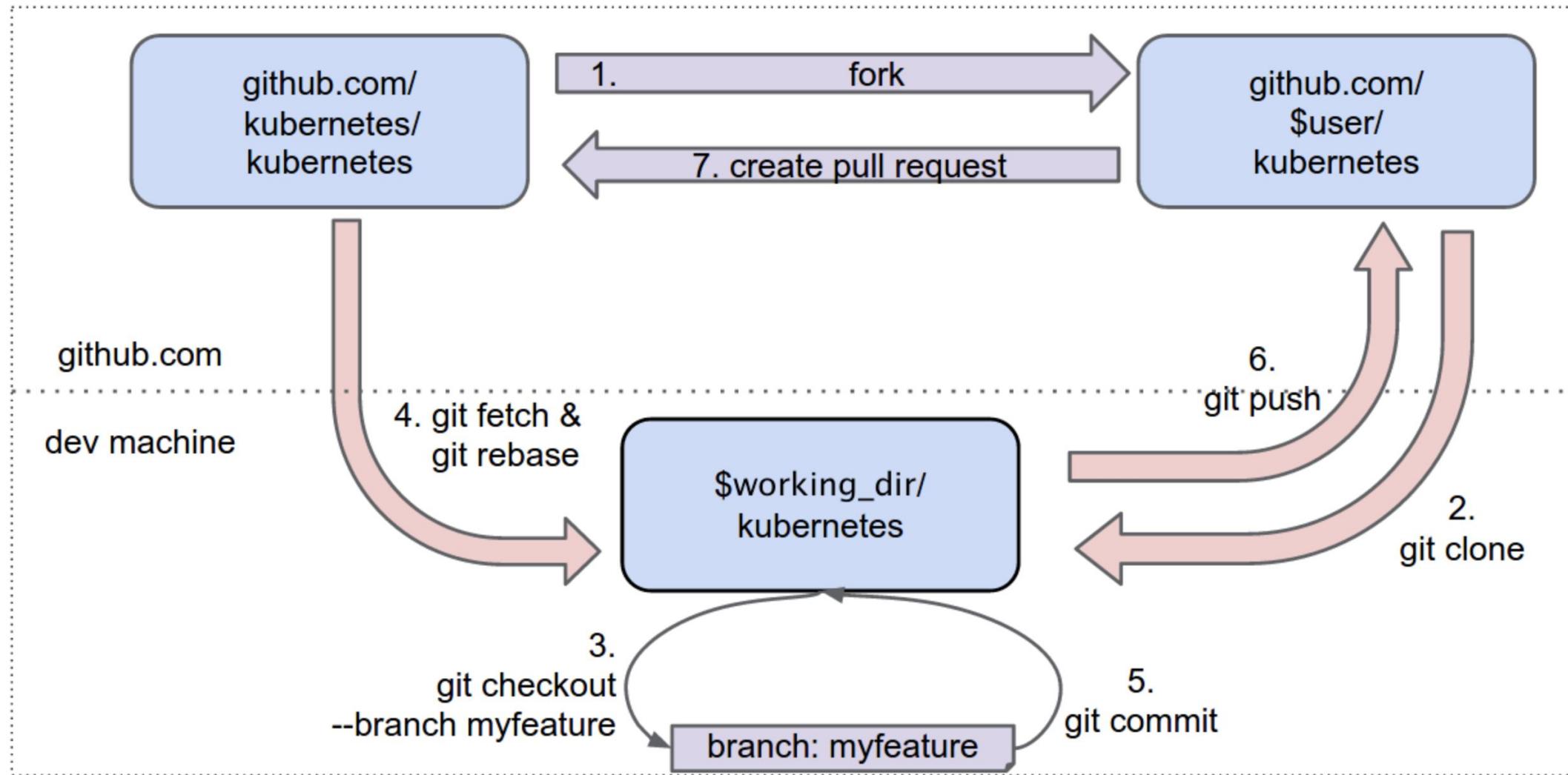
Playground Exercise

Your turn!!!

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



コード変更から PR 作成まで



Playground Exercise

- access <https://github.com/kubernetes-sigs/contributor-playground>
- create PR
- ask reviews on slack #jp-dev



PRを作るときの注意

小さく適切な切り分け: PRのサイズ

理解してもらうために: Issue, PR and Commit Message

- Summarizes in “Do foo for bar”
 - What & Why
- Architecture
 - How
- <https://chris.beams.io/posts/git-commit/>

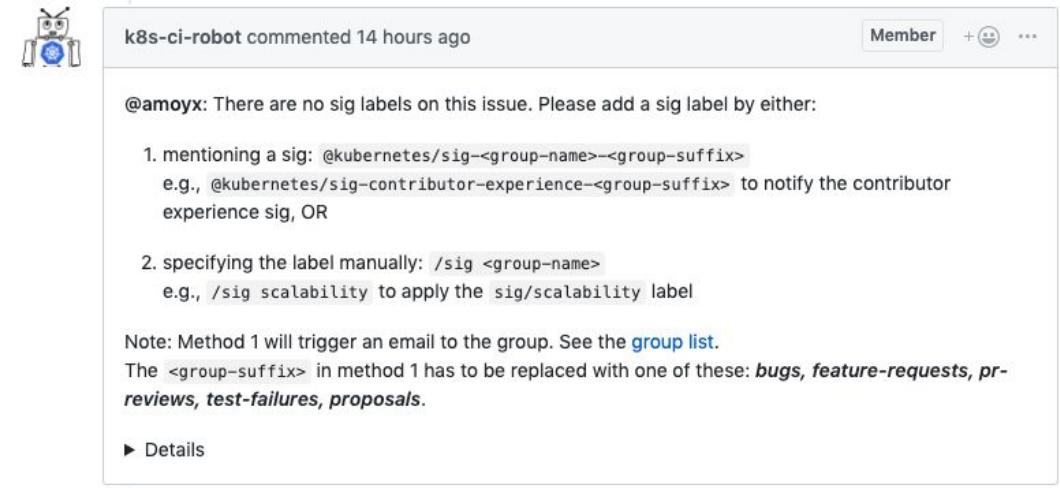
洗練された実装: Code

- コード規約、品質、テスト



SIGやAREA、KINDのラベルをつける

- kubernetes/kubernetes の場合
 - リポジトリが巨大で多くのSIGやコンポーネントが含まれているため
 - コマンド: /sig や /area
- どんな種類のPRなのか
 - バグFIX、ドキュメントなど
 - コマンド: /kind
- コマンド一覧
 - <https://prow.k8s.io/command-help>





k8s-ci-robot commented 7 minutes ago

Member + ...

レビューを見つける

- Botによる自動アサイン
 - 反応が鈍い人がアサインされる可能性
- 他のPRやIssueで活発な人
- OWNERSファイルに書かれている他の人
- PRが解決するIssueの著者
- SIGのミーティングに参加する
- Slack の #jp-dev や #jp-mentoring の活用
- コマンド: /assign @username

[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



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

@Shu Muto(shu)

@mkimura

@XIE ZIYI

@akihito-inou(atoato88)

@mochizuki875

@nasa9084

@Junya Okabe



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/japan/assets/hands_on.md

- CLAサインアップ

<https://github.com/kubernetes-sigs/contributor-playground/blob/master/japan/assets/attendee-prerequisites.md#サインアップ作業>

- GitHubで使えるコマンド

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

- 公式貢献者ガイド

<https://github.com/kubernetes/community/tree/master/contributors/guide#getting-started>

- ご質問は、slack の **#jp-mentoring** まで



Break - 5 minutes

Kubernetes コミュニティ構成

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.
SIG has the subproject(s)

Working Groups (WGs)

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

Committees

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



Special Interest Group

Kubernetes is a big project

Many contributors(88,000+) in one pool
would be too noisy

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



Special Interest Group

Charter:

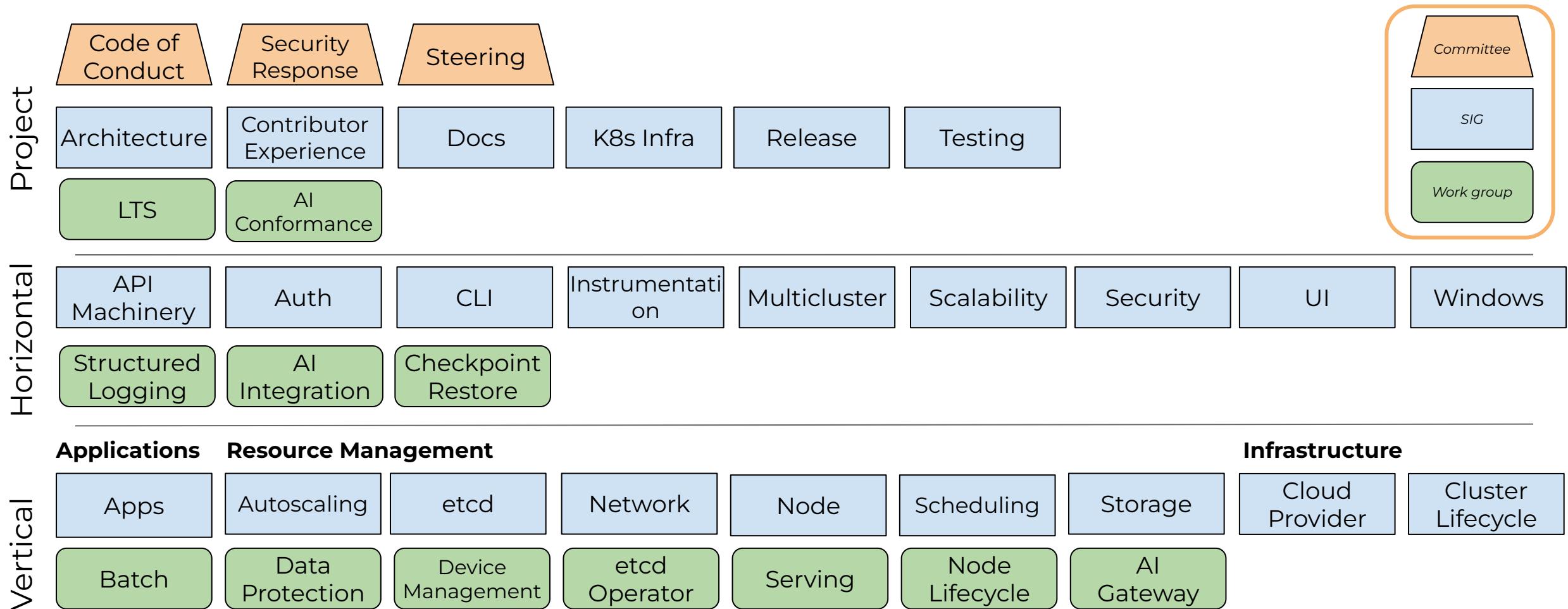
- Code ownership
 - Scope/area
 - Binaries
- Governing processes
- Subprojects
- Working Groups

Mailing List:

- Communications with SIG members



Community Groups Overview



Project SIGs

- SIG Architecture
- SIG Contributor Experience
- SIG Docs
- SIG K8s Infra
- SIG Release
- SIG Testing



Horizontal SIGs

- SIG API Machinery
- SIG Auth
- SIG CLI
- SIG Instrumentation
- SIG Multicluster
- SIG Scalability
- SIG Security
- SIG UI
- SIG Windows



Vertical SIGs: Applications

- Applications
 - SIG Apps
- Infrastructure
 - SIG Cloud Provider
 - SIG Cluster Lifecycle
- ResourceManagement
 - SIG Autoscaling
 - SIG etcd
 - SIG Network
 - SIG Node
 - SIG Scheduling
 - SIG Storage



Project Working Groups

- WG LTS
- WG AI Conformance

Horizontal Working Groups

- WG Structured Logging
- WG AI Integration
- WG Checkpoint Restore



Vertical Working Groups

- WG Batch
- WG Data Protection
- WG Device Management
- WG Etcd Operator
- WG Serving
- WG Node Lifecycle
- WG AI Gateway



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 at conference
- D. Go to the SIG intros at conference(KubeCon+CloudNativeCon)
 - Slide:
 - Search with “Intro” at KubeCon schedule page 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.



Contributor Ladder



Contributor Ladder



Contributor Ladder

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

Role	Responsibilities	Requirements	Defined by
Member	Active contributor in the community	Sponsored by 2 reviewers and 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	Contributions acceptance approval	Highly experienced active reviewer and 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 and SIG Leads

OWNERS files sprinkled all through the repos, eg:

<https://github.com/kubernetes/kubernetes/blob/master/OWNERS>

<https://github.com/kubernetes/kubernetes/blob/master/docs/OWNERS>

SIG Leads:

<https://github.com/kubernetes/community/blob/master/sigs.yaml>



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>

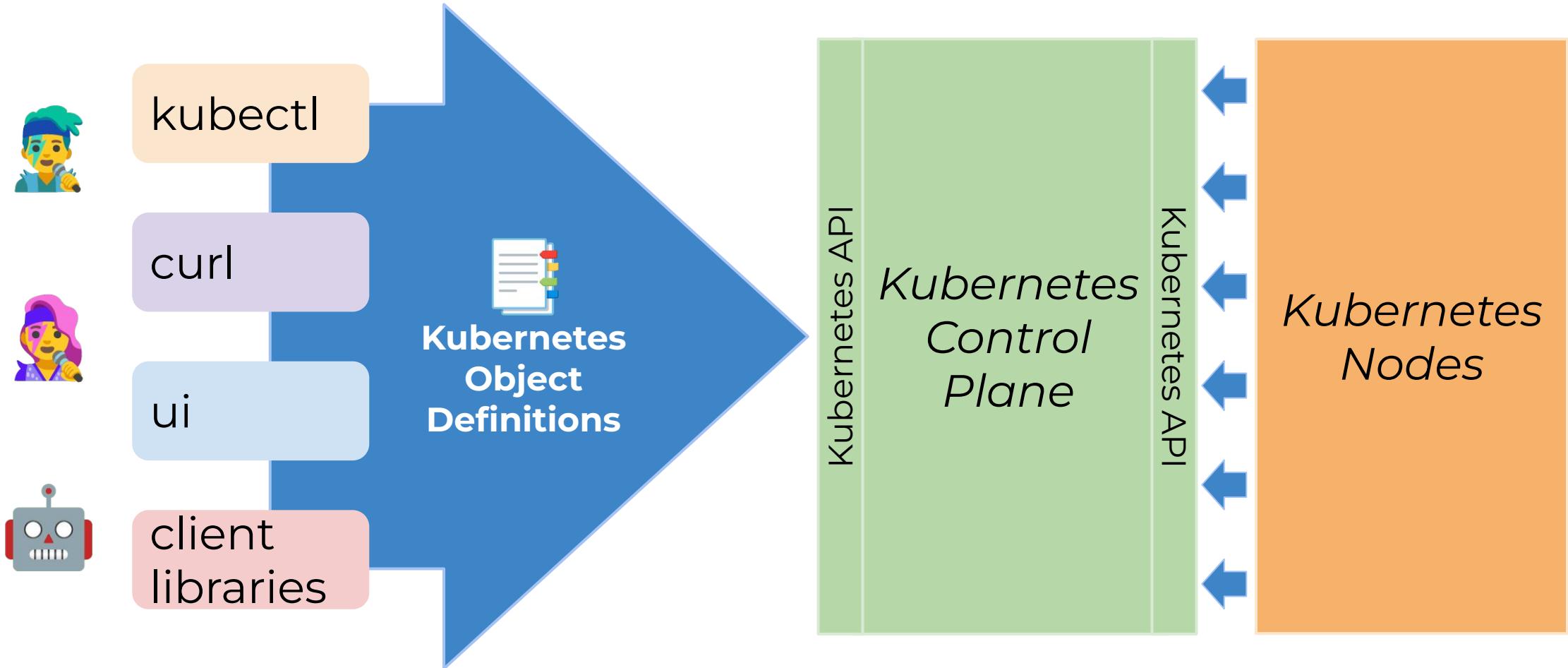


Kubernetes 開発環境

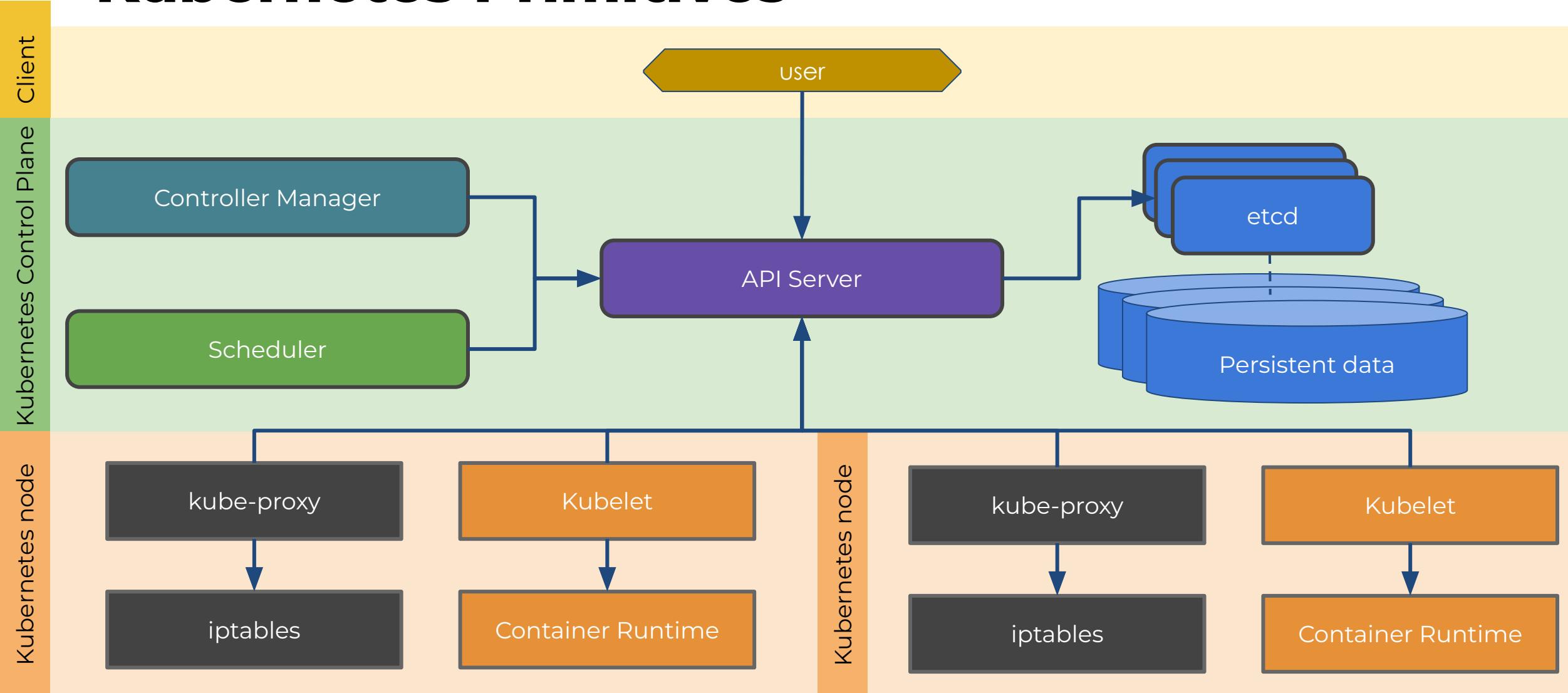
Kubernetes 概要



Kubernetes Architecture Overview



Kubernetes Primitives



レポジトリ・コードの場所 (**kubernetes/**)

<https://github.com/kubernetes> の主なレポジトリ

Kubernetes本体

ダッシュボード

ドキュメント

テスト基盤(prow等)

KEP置き場

The screenshot shows the GitHub organization page for 'Kubernetes'. The main navigation bar includes 'Overview', 'Repositories' (which is selected), 'Projects', 'Packages', and 'People'. A search bar at the top has the query 'sort:stars'. Below the search bar, it says 'All' and '77 repositories'. The repository list is sorted by stars in descending order. Each repository entry includes the name, description, language (e.g., Go, Shell, HTML), number of stars, and number of forks.

Repository	Description	Language	Stars	Forks
kubernetes	Production-Grade Container Scheduling and Management	Go	38k	105.4k
minikube	Run Kubernetes locally	Go	4.7k	28.1k
ingress-nginx	Ingress-NGINX Controller for Kubernetes	Go	8.1k	16.4k
kops	Kubernetes Operations (kOps) - Production Grade k8s Installation, Upgrades and Management	Go	4.6k	15.5k
dashboard	General-purpose web UI for Kubernetes clusters	Go	4k	13.5k
community	Kubernetes community content	Jupyter Notebook	5.1k	11.5k
kompose	Convert Compose to Kubernetes	Go	727	9k
client-go	Go client for Kubernetes.	Go	2.9k	8.5k
autoscaler	Autoscaling components for Kubernetes	Go	3.7k	7.5k
examples	Kubernetes application example tutorials	Shell	4.4k	6k
kube-state-metrics	Add-on agent to generate and expose cluster-level metrics.	Go	1.8k	5k
website	Kubernetes website and documentation repo:	HTML	13.6k	4.2k
test-infra	Test infrastructure for the Kubernetes project.	Go	2.5k	3.8k
kubeadm	Aggregator for issues filed against kubeadm	Go	691	3.6k
enhancements	Enhancements tracking repo for Kubernetes	Go	1.4k	3.2k

minikube/kops/kubeadmはこっち。
別のkubernetes-sigsにあるものも。



レポジトリ・コードの場所 (**kubernetes-sigs/**)

<https://github.com/kubernetes-sigs> の主なレポジトリ

The screenshot shows the GitHub organization page for "Kubernetes SIGs". The "Repositories" tab is selected. A search bar at the top left contains "sort:stars". The main area displays 175 repositories, each with a small icon, the repository name, a brief description, the programming language (e.g., Jinja, Go, TypeScript, Shell), the number of forks, and the number of stars. The repositories listed include kubespray, kind, kustomize, kubebuilder, external-dns, krew, metrics-server, descheduler, aws-load-balancer-controller, cluster-api, kui, and nfs-subdir-external-provisioner.

Repository	Description	Language	Forks	Stars
kubespray	Deploy a Production Ready Kubernetes Cluster	Jinja	6.2k	15.1k
kind	Kubernetes IN Docker - local clusters for testing Kubernetes	Go	1.4k	12.6k
kustomize	Customization of Kubernetes YAML configurations	Go	2.2k	10.4k
kubebuilder	Kubebuilder - SDK for building Kubernetes APIs using CRDs	Go	1.4k	7.3k
external-dns	Configure external DNS servers (AWS Route53, Google CloudDNS and others) for Kubernetes Ingresses and Services	Go	2.4k	7.1k
krew	Find and install kubectl plugins	Go	355	6k
metrics-server	Scalable and efficient source of container resource metrics for Kubernetes built-in autoscaling pipelines.	Go	1.8k	5.3k
descheduler	Descheduler for Kubernetes	Go	625	4k
aws-load-balancer-controller	A Kubernetes controller for Elastic Load Balancers	Go	1.3k	3.7k
cluster-api	Home for Cluster API, a subproject of sig-cluster-lifecycle	Go	1.2k	3.3k
kui	A hybrid command-line/UI development experience for cloud-native development	TypeScript	193	2.7k
nfs-subdir-external-provisioner	Dynamic sub-dir volume provisioner on a remote NFS server.	Shell	709	2.3k

kubespray/kindはこっち。
kustomize/kubebuilderなどもこっち。
今日使う、contributor-playgroundもこっち

<https://github.com/orgs/kubernetes-sigs/repositories?q=sort%3Astars>



コードのディレクトリ構成 (k/k)

The screenshot shows the GitHub repository for Kubernetes (`kubernetes/kubernetes`). The main page displays the repository's structure, including branches (53), tags (1,078), and pull requests (828). A large green arrow points from the 'cmd' folder in the main repository to the 'cmd' folder in the 'kubernetes/cmd' repository.

cmdの中身は呼び出し元

The 'cmd' folder in the main repository contains the following files and folders:

- CHANGELOG
- LICENSES
- api
- build
- cluster
- cmd
- docs
- hack
- logo
- pkg
- plugin
- staging
- test
- third_party
- vendor

Each item has a corresponding commit history below it, such as 'Merge pull request #123411 from hunshcn/fix/volume-link' or 'Merge pull request #114672 from pohly/log-text-split-stre...'.

cmdの中身は呼び出し元

This screenshot shows the `kubernetes/cmd` repository. It lists various sub-modules under the 'cmd' directory, each with its last commit message and date. A large green arrow points from the 'cmd' folder in the main repository to this list.

Name	Last commit message	Last commit date
...		last year
clicheck	More migrations from genericoptions to genericloptions	last year
cloud-controller-manager	Drop vsphere cloud provider	last month
dependencycheck	replace deprecated io/ioutil with os and io for cmd	2 years ago
dependencyverifier	Track vendor status of unwanted deps	5 months ago
fieldnamedocscheck	Make verify-fieldname-docs actually error	last month
gendocs	More migrations from genericoptions to genericloptions	last year
genkubedocs	replace deprecated io/ioutil with os and io for cmd	2 years ago
genman	More migrations from genericoptions to genericloptions	last year
genswaggerypedocs	hack/update-bazel.sh	3 years ago
genutils	hack/update-bazel.sh	3 years ago
genyaml	More migrations from genericoptions to genericloptions	last year
gotemplate	golangci-lint: suppress one issue, demote others to "hints"	6 months ago
importverifier	replace deprecated io/ioutil with os and io for cmd	2 years ago
kube-apiserver	remove flag cidr max size validation if gate enable	4 months ago
kube-controller-manager	Merge pull request #120344 from rohitssingh/disable_forc...	5 days ago
kube-proxy	Merge pull request #114672 from pohly/log-text-split-strea...	2 days ago

pkgの中に詳細な実装(単体テスト含む)

This screenshot shows the `kubernetes/pkg` repository. It lists various sub-modules under the 'pkg' directory, each with its last commit message and date. A large green arrow points from the 'pkg' folder in the main repository to this list.

Name	Last commit message	Last commit date
...		last week
api	graduate PodLifecycleSleepAction to beta	last week
apis	Merge pull request #123411 from hunshcn/fix/volume-link	5 hours ago
auth	Merge pull request #10598 from gy95/match	3 years ago
capabilities	initialize capabilities unit test	3 years ago
client	Move crf/streaming to k8s.io/kubelet staging repository	9 months ago
clouddriver	Drop vsphere cloud provider	last month
cluster/ports	Webhook framework for cloud controller manager	last year
controller	Merge pull request #122493 from mengliao-liu/fix-cronjob...	8 hours ago
controlplane	Implement authz config file reloading	2 weeks ago
credentialprovider	chore: Cleanup in-tree credential provider azure and cloud ...	last month
features	Merge pull request #123281 from seans3/remote-commun...	1 hour ago
fieldpath	Improved FormatMap: Improves performance by about 4x, ...	last year
generated	Merge pull request #123411 from hunshcn/fix/volume-link	5 hours ago
kubeapiserver	Add allowed/denied metrics for authorizers	2 weeks ago
kubectl	Merge pull request #120259 from SataQiu/clean-spf-2023...	6 months ago
kubelite	Merge pull request #123424 from haircommander/image-g...	5 hours ago

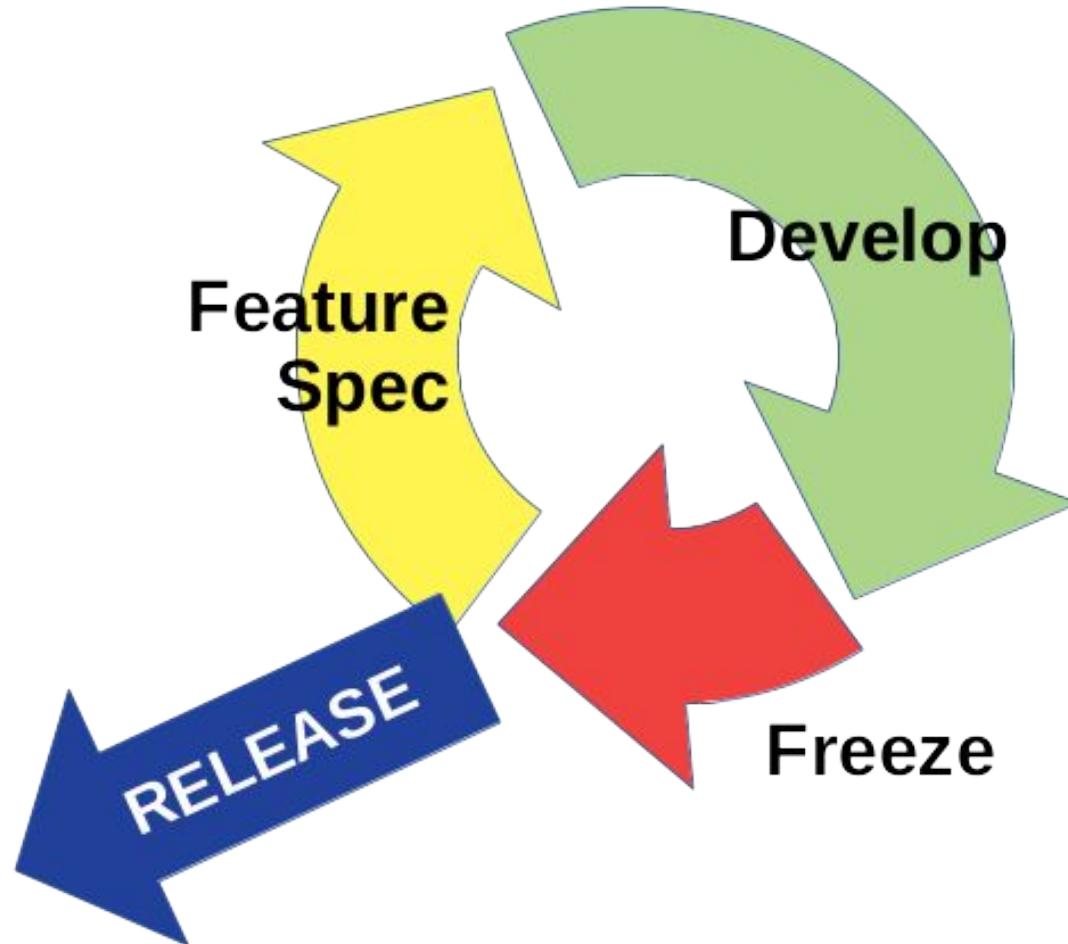
test/の中にintegration・e2eテスト

This screenshot shows the `kubernetes/test` repository. It lists various sub-modules under the 'test' directory, each with its last commit message and date. A large green arrow points from the 'test' folder in the main repository to this list.

Name	Last commit message	Last commit date
...		last month
cmd	Bump shellcheck to 0.9.0	last month
conformance	update distroless-iptables to v0.5.0 debian-base to bookw...	3 weeks ago
e2e	Merge pull request #123281 from seans3/remote-commun...	1 hour ago
e2e_kubeadm	test/e2e_kubeadm/dns_addon_test.go: drop kube-dns tests	3 months ago
e2e_node	Merge pull request #123343 from haircommander/image-g...	last week
fixtures	api: remove SecurityContextDeny admission plugin	last month
fuzz	Add skeleton CBOR package and introduce library depend...	last month
Images	release v1.29.2 for sampleapiserver	4 days ago
instrumentation	bump the stability level of apiserver_storage_size_bytes to...	2 weeks ago
integration	Merge pull request #114672 from pohly/log-text-split-strea...	2 days ago
kubemark	Bump shellcheck to 0.9.0	last month
list	Remove KubeDescribe	3 years ago
soak/serve_hostnames	test: replace intstr.FromInt with intstr.FromInt32	9 months ago
typecheck	Fix lint warning about unchecked error	last month
utils	Merge pull request #123444 from pohly/test-context-expe...	yesterday
OWNERS	lavalamp is taking a long break	9 months ago



The 4-month Release Cycle



Dev Environment: Pre-Requisites

- Lots of RAM/Disk/CPU
- Linux, Mac, Windows basic dev tools
- Docker (for Mac/Win dedicate **6GB RAM**)
- Golang 1.22 (k8s v1.30 以降)^(*1) and \$GOPATH set
- GitHub:
 - Account and SSH key configured
 - Fork github.com/kubernetes/kubernetes

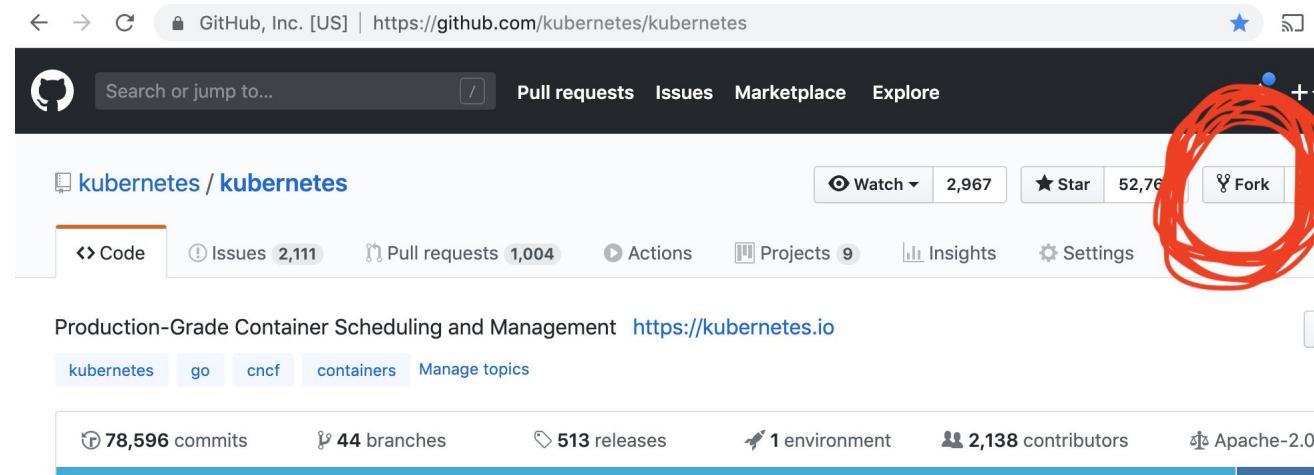
<https://www.flickr.com/photos/vestman/3900877043/>
By Vestman (vestman) [CC BY 2.0], via flickr



(*1) <https://github.com/kubernetes/kubernetes/blob/master/.go-version>



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



開発環境構築



Kubernetes 開発環境構築方法の比較

ツール名	ビルドしてデプロイ	複数ノードにデプロイ	デプロイ先デバイスの直接操作	備考
local-up-cluster.sh	✓		✓	バイナリがホストで直接動作
kind	✓	✓		nodeはコンテナとして動作
minikube		✓	△	nodeはコンテナとして動作 ※VM、ホスト直でも可
kubeadm		✓	✓	
kubespray		✓	✓	

- k8s本体のコードを(変更+)ビルドして試したい場合:
 - 複数ノードかつデプロイ先デバイス直接操作が必要: ビルドは自分でして、kubeadm/kubesprayなどでデプロイ (graceful-node shutdownを試したい等)
 - 単体ノードでデバイス操作が必要: local-up-cluster.sh (ボリューム・GPU等)
 - 特に要件なし: kindかlocal-up-cluster.sh
- 上記以外: お好みで選択



Kubernetes 開発環境 (local-up-cluster.sh)

- インストール
 - 不要 (k8s本体のソースコードに同梱されるスクリプトを利用)
- ビルドしてデプロイ (screenコマンドなどで複数ターミナル実行を推奨)

```
$ sudo PATH=$PATH hack/install-etcd.sh  
$ export PATH=$(pwd)/third_party/etcd:$PATH  
$ sudo PATH=$PATH hack/local-up-cluster.sh
```

- 停止
 - Ctrl + Cでプロセスを停止

※ 上記コマンドでのビルド時は対象のk8sのソースがカレントディレクトリにある前提
(「Dev Environment: Initialization」のスライド参照)



Kubernetes 開発環境 (kind)

- インストール
 - <https://kind.sigs.k8s.io/docs/user/quick-start/#installation> を参照
- ビルドせずにデプロイ

```
$ kind create cluster
```

- 停止

```
$ kind delete cluster
```

- ビルドしてデプロイ

```
$ kind build node-image .
$ kind create cluster --image kindest/node:latest
```

※ 上記コマンドでのビルド時は対象のk8sのソースがカレントディレクトリにある前提
(「Dev Environment: Initialization」のスライド参照)



参考) 自前ビルドで動作確認のオススメの最初のステップ

- ログの出力部分のコードのメッセージを改変してみる
 - 例) kubeletだと

```
$ sed -i 's|Starting kubelet main sync loop|Starting my cool kubelet main sync loop|' pkg/kubelet/kubelet.go
```

- ビルドして動かしてみて、ログが変わっていることを確認してみる
 - 改変前

```
Feb 27 09:28:09 kind-control-plane kubelet[179]: I0227 09:28:09.386775 179 kubelet.go:2324] "Starting kubelet main sync loop"
```

- 改変後

```
Feb 27 09:45:58 kind-control-plane kubelet[179]: I0227 09:45:58.668145 179 kubelet.go:2324] "Starting my cool kubelet main sync loop"
```



自分でk8s本体をビルドする方法

- `make quick-release` を実行する
- 自分で生成されたバイナリ・コンテナイメージに差し替えて試す必要あり。
- 参考) 過去の資料より
 - <https://github.com/kubernetes/kubernetes/blob/master/build/README.md>

- **'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>



Testing: Unit Tests

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

```
$ go test ./...
?      k8s.io/kubernetes/pkg/kubectl [no test files]
ok    k8s.io/kubernetes/pkg/kubectl/cmd/convert 0.082s
$
```



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)
- kubetest2のインストール <https://github.com/kubernetes-sigs/kubetest2>

```
$ go install sigs.k8s.io/kubetest2/...@latest
```

- テスト実行例

```
$ kubetest2 noop --test=ginkgo -- --focus-regex='Secrets'
```

補足) 手元でログを見ながら、指定したものを動かすだけなら、下記の方法がおすすめ

```
$ make all WHAT=test/e2e/e2e.test
$ make WHAT=ginkgo
$ KUBERNETES_PROVIDER=local ./hack/ginkgo-e2e.sh --ginkgo.focus='Secrets should be
able to mount in a volume'
```



Testing: Conformance

- Subset of e2e
 - SIG Architecture approved tests
 - Represent core set of interoperable features
 - Example: run the conformance tests
-
- テスト実行例
- ※ 前述のE2Eテストの中で、"[Conformance]"のタグが付いたテストを動かせば良い。

```
$ kubetest2 noop --test=ginkgo -- --focus-regex='\[Conformance\]'
```



k/website

環境構築



ドキュメントのディレクトリ構成 (k/website)

The diagram illustrates the directory structure and commit history for the Kubernetes website, comparing the English version (content/en) and the Japanese version (content/ja).

content/enに英語原文

Name	Last commit message	Last commit date
..		
de	fix typo	2 days ago
en	Merge pull request #45307 from eaudetcobello/patch-1	9 hours ago
es	[es]: remove reference to removed CSS	3 days ago
fr	[fr]: Removing old CSS includes from tutorials and fix html ...	3 days ago
hi	Merge branch 'kubernetes:main' into main	last week
id	Merge pull request #45333 from HaikalRFadhilahh/fx-link-id	2 days ago
it	Merge pull request #44403 from Arhell/it-date	last month
ja	Merge pull request #45001 from Okabe-Junya/fix-44996	53 minutes ago
ko	[ko] Fix broken link	4 days ago
no	[no] Remove exec permission on markdown files	3 years ago
pl	Update references to CNCF landscape (v2)	last month
pt-br	[pt-br] Add /docs/tasks/access-application-cluster/configu...	2 weeks ago
ru	Merge pull request #44766 from yungserge/ru-localisation	3 weeks ago
uk	[uk] remove indent	last month
vi	Update references to CNCF landscape (v2)	last month
zh-cn	Merge pull request #45374 from Arhell/zh-upd	3 hours ago

content/ja/の中に日本語訳

Name	Last commit message	Last commit date
..		
_index.md	[ja] add figure/description in `content/ja/docs/concepts/architec...	last month
cgroups.md	[ja] sync concepts/architecture/cgroups.md	8 months ago
cloud-controller.md	[ja] s/クラスタ/クラスター/g	last year
control-plane-node-communication.md	[ja] sync concepts/architecture/control-plane-node-comm...	8 months ago
controller.md	[ja] sync concepts/architecture/controller.md	8 months ago
cri.md	[ja] sync architecture/cri.md	6 months ago
garbage-collection.md	fix: remove redundant modifier	6 months ago
leases.md	[ja] add docs for leases	last year
nodes.md	[ja] s/クラスタ/クラスター/g	last year



Website 開発環境

- 下記をフォークして、ローカルにクローンする
 - <https://github.com/kubernetes/website>
 - git clone <https://github.com/kubernetes/website.git>
 - cd website
- サブモジュールをアップデートする
 - make module-init
- 修正対象のファイルを編集する
- 以下を実行して、コンテナ内でサイトを構築する
 - make container-image
 - make container-serve
- ブラウザで <http://localhost:1313> にアクセスして、修正内容を確認する
参考: <https://github.com/kubernetes/website/blob/main/README.md>
- Slack: [#kubernetes-docs-ja](#) (日本語ページ向け)



クロージング





Thank you, and welcome

付録

比較的よく使われるチャット略語

- ditto / (既に指摘した部分に続いて、) 同上です
- nit, nits / 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, JFYI ((just) For your information) / 参考までに
- -_(ツ)_/- (shrug) / 肩をすくめる
- IMO, IMHO (In my (humble) opinion) / 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



Labels





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

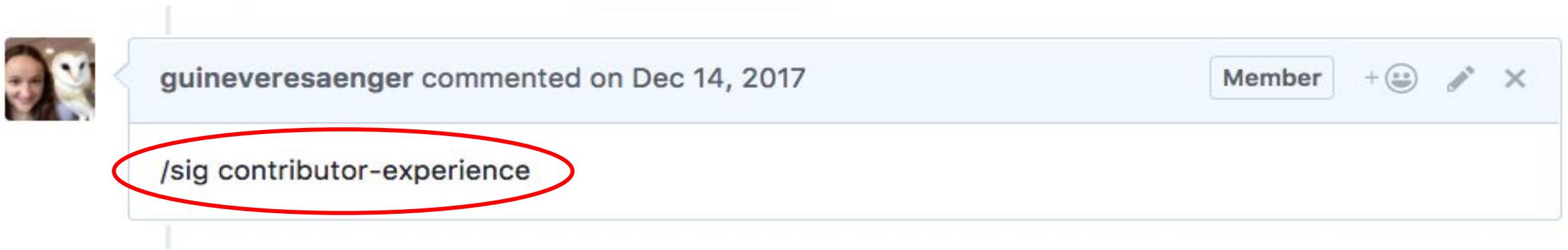
🔕 Unsubscribe

You're receiving notifications because you were mentioned.

7 participants



Adding a label



Bot Commands



<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



The Area Label

area/kubectl

area/api

area/dns

area/platform/gce

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



The Kind Label

kind/bug

kind/feature

kind/documentation

kind/design

kind/failing-test

kind/flake

kind/cleanup

Example bot command: /kind feature



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



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 latest
```

Reviewers

neolit123

ereslibre

fabriiziopandini

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>



Engaging Community



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!

Mentoring Opportunities

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

Kubernetes Tutorials

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

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



SIGs, Areas, Issues: Engaging

at KubeCon!

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

KubeCon Videos

- 2021
 - [Europe 2021 Virtual](#)
 - [NorthAmerica 2021](#)
- 2022
 - [Europe 2022](#)
 - [NorthAmerica 2022](#)
- 2023
 - [Europe 2023](#)
 - [NorthAmerica 2023](#)
- 2024
 - [Europe 2024](#)
 - [NorthAmerica 2024](#)
- Please check on [CNCF on Youtube](#)



SIGs, Areas, Issues: Engaging

Governance reference

<https://git.k8s.io/community/governance.md>

Project Group List

<https://git.k8s.io/community/sig-list.md>

Mentoring Links

<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/develop/README.md>



リリースサイクル



Release Process

Enhancements Discussion (per SIG): ongoing

Enhancements Freeze:

week ~3

Code Freeze:

...bugs, testing, bugs, fixing, bugs, ...iterating

week ~13

Release Branch Creation:

week ~14

End Code Freeze(Thaw):

week ~16

Release:

week ~16

<https://kubernetes.io/releases/release/>

**Enhancements
Definition**

**Feature
Work**

**Bug
Fixing**

Release

4 Month
Cycle



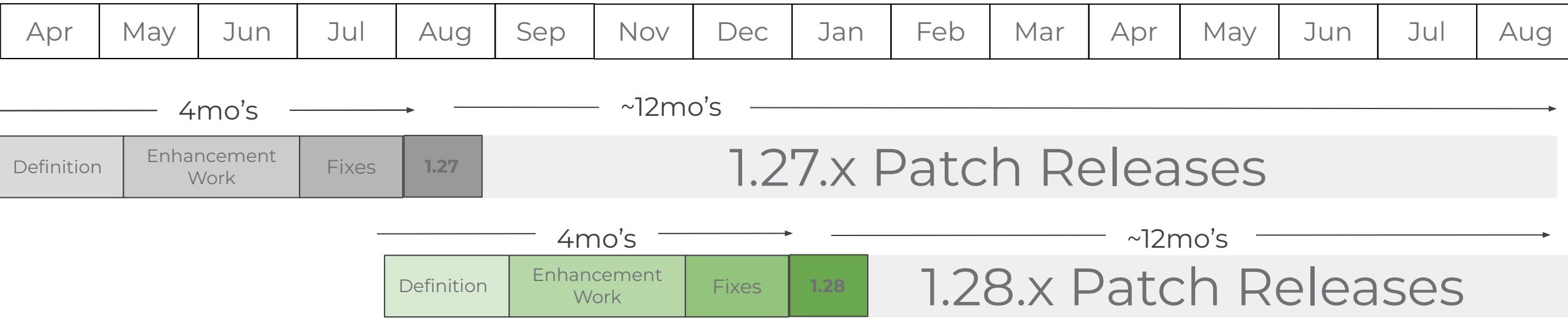
Release Lifecycle



K8s Releases



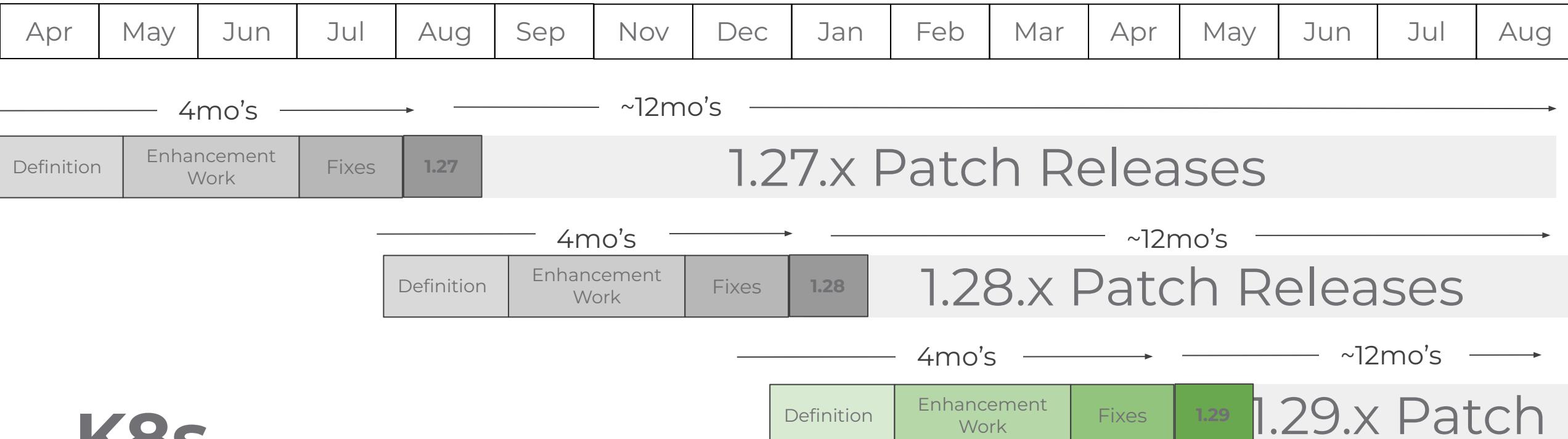
Release Lifecycle



K8s Releases



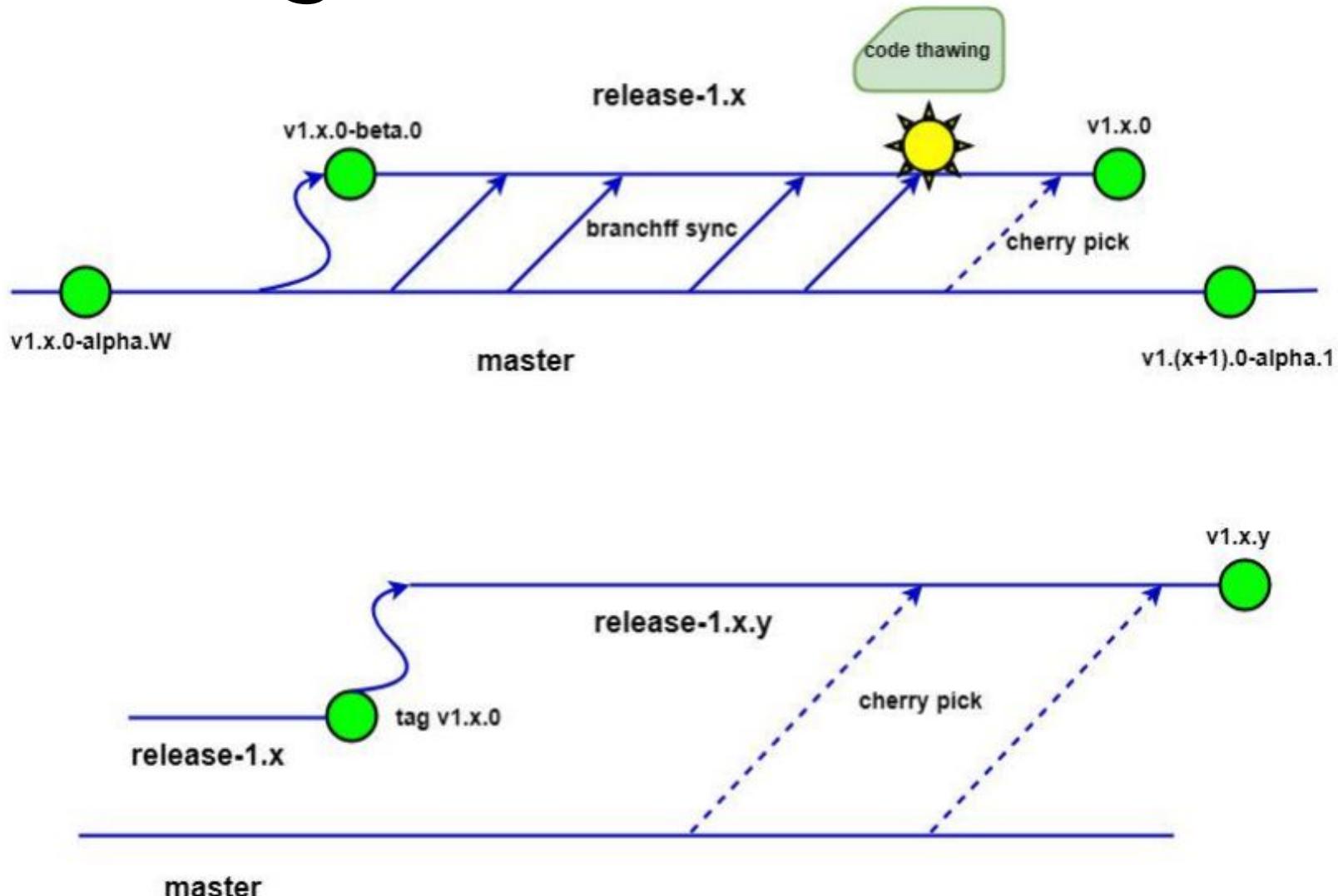
Release Lifecycle



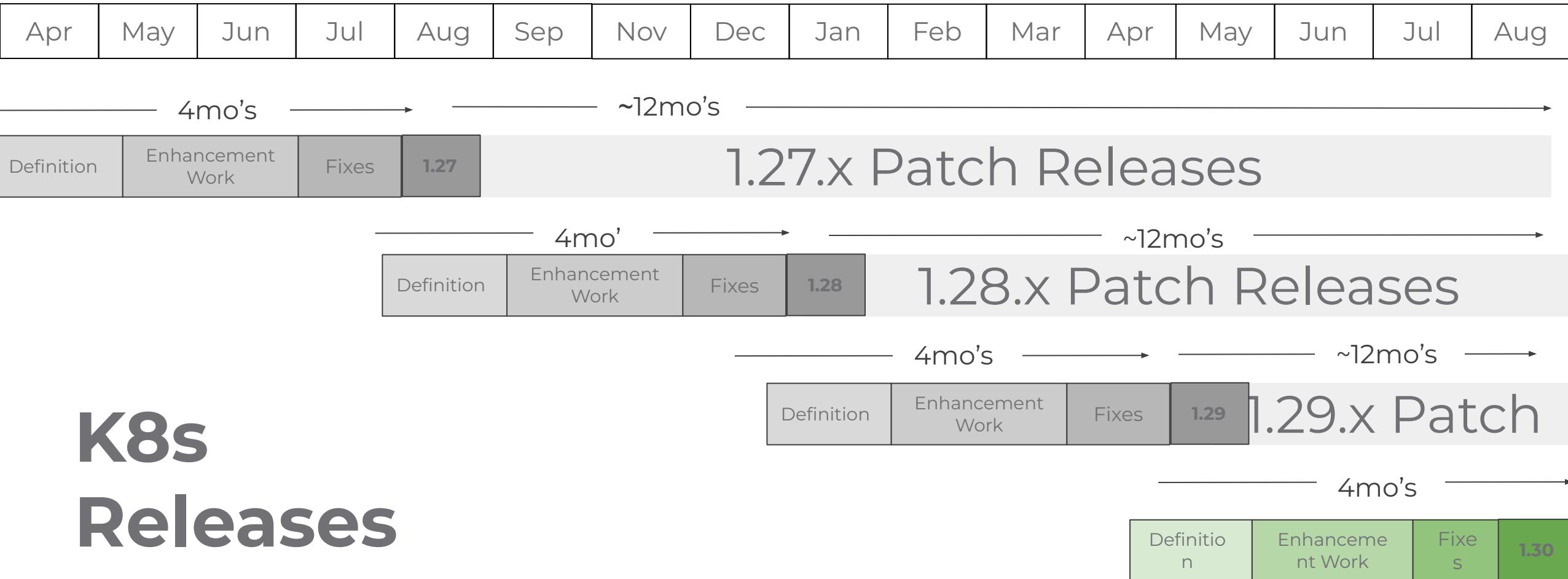
K8s
Releases



Branch Management

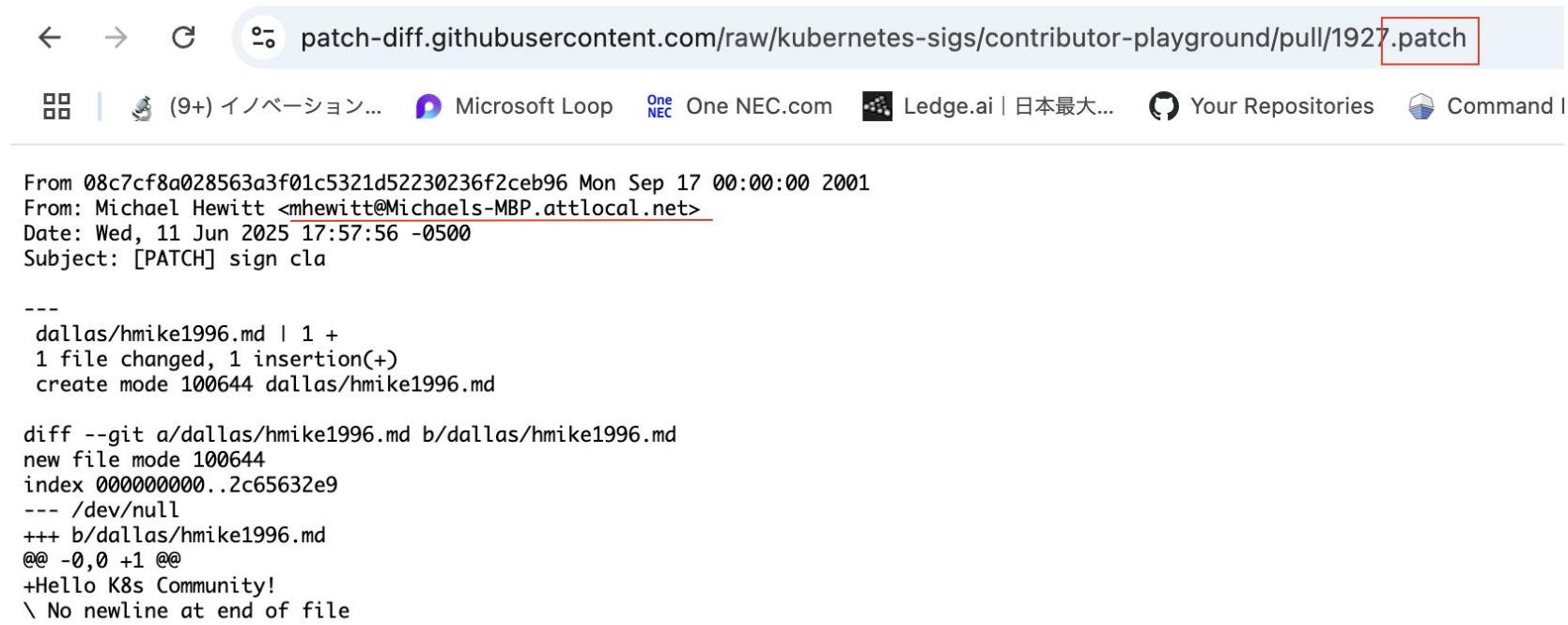


Release Lifecycle



Tips for CLA Check

- To view the commit's email address, add **.patch** at the end of this PR page's URL.



The screenshot shows a GitHub pull request page for a Kubernetes contributor playground. The URL in the browser bar is highlighted with a red box and ends with ".patch". The page displays the commit message and the diff output. The commit message is:

```
From 08c7cf8a028563a3f01c5321d52230236f2ceb96 Mon Sep 17 00:00:00 2001
From: Michael Hewitt <mhewitt@Michaels-MBP.attlocal.net>
Date: Wed, 11 Jun 2025 17:57:56 -0500
Subject: [PATCH] sign cla
```

The diff output shows a new file being created:

```
---
```

```
dallas/hmike1996.md | 1 +
1 file changed, 1 insertion(+)
create mode 100644 dallas/hmike1996.md
```

```
diff --git a/dallas/hmike1996.md b/dallas/hmike1996.md
new file mode 100644
index 00000000..2c65632e9
--- /dev/null
+++ b/dallas/hmike1996.md
@@ -0,0 +1 @@
+Hello K8s Community!
\ No newline at end of file
```

