



# Understanding Kubernetes Release Cycle and Team Dynamics

by  
Satyam Soni

**Kubernetes: *Back to Basics***

# Who I am?

- Satyam Soni
- Kubernetes Release Team Member V1.30
- Author of Last Week in Kubernetes Development
- Cloud Native New Delhi Organizer
- DoKC Ambassador



## Let's Begin

# Agenda

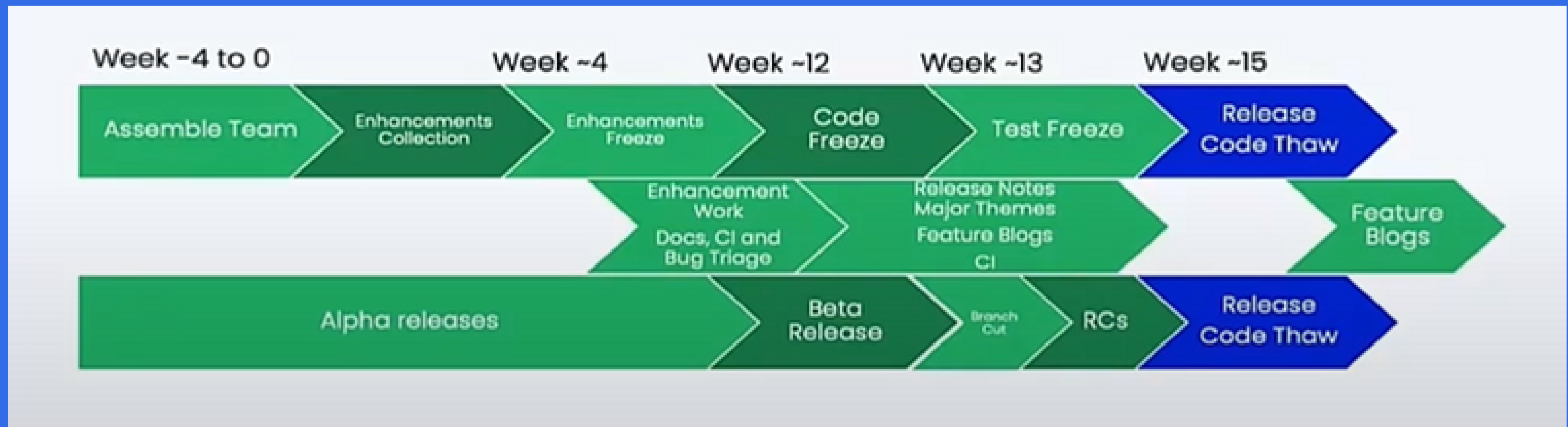
- Kubernetes Release
- Kubernetes Release Cycle
- Kubernetes Release team
- How to apply for Kubernetes release team

# Kubernetes Release

- A new version or update of the Kubernetes software that is made available to users.
- Each release undergoes thorough improvements , deprecations, testing and validation before being made publicly available to ensure reliability and compatibility with existing Kubernetes deployments.
- And there requires a dedicated team for Kubernetes Release and involved in the release cycle.

# Release Cycle

- Involves assembling the team, making improvements, bug fixes, adding new features, tests and final release
- There are 3 release cycles in a year of 15 weeks each.



# Enhancements Collection

## Week 0-7

- Enhancements are ideas for feature requests.
- This is also Known as **KEPs(Kubernetes Enhancements Proposal)**
- Each SIG comes up with the ideas and features they want to be published or deprecated with the next release.
- All the ideas are placed in the enhancements tracking board with the alpha beta and graduated criteria.
- Collection of Major themes also gets started by Release Notes Team
- Code work also goes in parallel.



# Prevent unauthorised volume mode conversion during volume restore

 Open  10 tasks done RaunakShah opened this issue on Jan 14, 2022 · 53 comments



RaunakShah commented on Jan 14, 2022 · edited

Member

## Enhancement Description

- One-line enhancement description (can be used as a release note): Prevent unauthorised volume mode conversion during volume restore.
- Kubernetes Enhancement Proposal: <https://github.com/kubernetes/enhancements/tree/master/keps/sig-storage/3141-prevent-volume-mode-conversion>
- Primary contact (assignee): @RaunakShah @xing-yang
- Responsible SIGs: SIG-Storage
- Enhancement target (which target equals to which milestone):
  - Alpha release target (x.y): 1.24
  - Beta release target (x.y): 1.27
  - Stable release target (x.y): 1.30

☒ Alpha

☒ KEP ( k/enhancements ) update PR(s):

- <https://github.com/kubernetes/enhancements/tree/master/keps/sig-storage/3141-prevent-volume-mode-conversion>

☒ Code ( k/k ) update PR(s):

- [Update generated code for SourceVolumeMode field in VolumeSnapshotContents](#) [kubernetes-csi/external-snapshotter#665](#)
- [Update snapshotter and client modules](#) [kubernetes-csi/external-snapshotter#670](#)

☒ Docs ( k/website ) update PR(s):

- [Add docs for preventing volume mode conversion](#) [website#32673](#)

☒ Beta

☒ KEP ( k/enhancements ) update PR(s):

## Assignees


 RaunakShah

## Labels

lead-opts-

tracked/out-

## Projects

 (Test b

Status: No


 1.26 Co

Status: No


 1.26 En

Status: (

☒ Beta

 1.27

Status: "

 1.30

Status: "

## Mileston

v1.30

☒ KEP ( k/enhancements ) update PR(s):

- [KEP-3141: Graduate "Prevent unauthorised volume mode conversion" to Beta](#) #3556

☒ Code ( k/k ) update PR(s):

- [Add tests for volume mode conversion feature](#) [kubernetes-csi/external-provisioner#867](#)
- [Add and enable sidecar e2e test to enable volume mode conversion](#) [kubernetes-csi/external-provisioner#832](#)
- [Fix string pointer comparison for source volume mode conversion](#) [kubernetes-csi/external-provisioner#793](#)
- [Register metrics exposed by sig-storage-lib](#) [kubernetes-csi/external-provisioner#792](#)
- [Change annotation name to allow volume mode change](#) [kubernetes-csi/external-provisioner#791](#)
- [Add dataSource label to pvcs created](#) [kubernetes-sigs/sig-storage-lib-external-provisioner#128](#)
- [Add optional canary job to all CSI sidecar repos](#) [test-infra#28307](#)

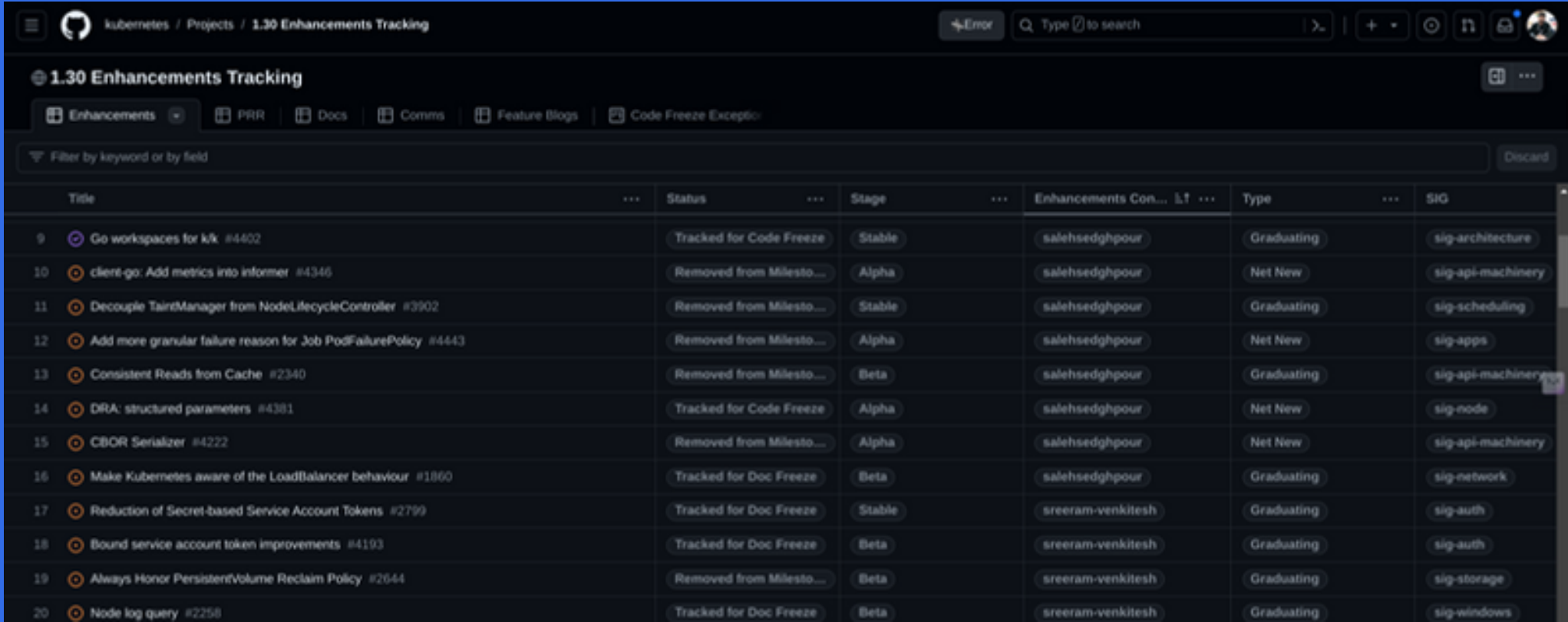
☒ Docs ( k/website ) update(s):

- [Update volume mode change annotation in documentation](#) [website#39367](#)

☒ Stable

☒ KEP ( k/enhancements ) update PR(s): [KEP-3141: Graduate "Prevent unauthorised volume mode conversion" to Stable](#) #4459, [KEP-3141: Add no known failure modes to README](#) #4497

# Enhancements Tracking Board



The screenshot shows the '1.30 Enhancements Tracking' page on the Kubernetes GitHub repository. It features a navigation bar with tabs for Enhancements, PRR, Docs, Comms, Feature Blogs, and Code Freeze Exceptions. A search bar is located below the tabs. The main table lists 20 enhancements with columns for Title, Status, Stage, Enhancements Con..., Type, and SIG. The enhancements are numbered 9 through 20.

Title	Status	Stage	Enhancements Con...	Type	SIG
9 Go workspaces for k/k #4402	Tracked for Code Freeze	Stable	salehsedghpour	Graduating	sig-architecture
10 client-go: Add metrics into informer #4346	Removed from Milesto...	Alpha	salehsedghpour	Net New	sig-api-machinery
11 Decouple TaintManager from NodeLifecycleController #3902	Removed from Milesto...	Stable	salehsedghpour	Graduating	sig-scheduling
12 Add more granular failure reason for Job PodFailurePolicy #4443	Removed from Milesto...	Alpha	salehsedghpour	Net New	sig-apps
13 Consistent Reads from Cache #2340	Removed from Milesto...	Beta	salehsedghpour	Graduating	sig-api-machinery
14 DRA: structured parameters #4381	Tracked for Code Freeze	Alpha	salehsedghpour	Net New	sig-node
15 CBOR Serializer #4222	Removed from Milesto...	Alpha	salehsedghpour	Net New	sig-api-machinery
16 Make Kubernetes aware of the LoadBalancer behaviour #1860	Tracked for Doc Freeze	Beta	salehsedghpour	Graduating	sig-network
17 Reduction of Secret-based Service Account Tokens #2799	Tracked for Doc Freeze	Stable	sreeram-venkitesh	Graduating	sig-auth
18 Bound service account token improvements #4193	Tracked for Doc Freeze	Beta	sreeram-venkitesh	Graduating	sig-auth
19 Always Honor PersistentVolume Reclaim Policy #2644	Removed from Milesto...	Beta	sreeram-venkitesh	Graduating	sig-storage
20 Node log query #2258	Tracked for Doc Freeze	Beta	sreeram-venkitesh	Graduating	sig-windows



The screenshot shows the 'Assignees' tab of the '1.30 Enhancements Tracking' page. It displays a table with columns for Assignees, PRR Status, Code Freeze Exception St..., and Labels. The table lists 15 assignees and their associated labels.

Assignees	PRR Status	Code Freeze Exception St...	Labels
jpbetz and liggitt	Approved		lead-opted-in sig/api-machinery sig/architecture sig/release
logicalhan	Approved		lead-opted-in sig/api-machinery
yuanchen8911	Removed from milesto...		sig/apps sig/node sig/scheduling stage/beta
	In process		lead-opted-in sig/apps stage/alpha wg/batch
serathius	Approved		lead-opted-in sig/api-machinery stage/beta
	Approved		lead-opted-in sig/node stage/alpha wg/batch
			lead-opted-in sig/api-machinery stage/alpha
rikatz, RyanAoh, and...			lead-opted-in sig/network stage/beta
liggitt and zshihang	Approved		lead-opted-in lifecycle/frozen sig/auth stage/stable
enj, liggitt, and munn...	Approved		lead-opted-in sig/auth stage/beta
deepakkinni			sig/storage stage/beta
aravindh	Approved		lead-opted-in sig/windows stage/beta
MikeSpreitzer	Approved		kind/api-change sig/api-machinery stage/stable

<https://github.com/orgs/kubernetes/projects/175>



# Enhancements Freeze

## Week 8

- This is the deadline by which the KEP has to be completed in order for enhancements to be the part of the current release.
- The enhancements should be in implementable states, have proper testing plans and have graduation criteria defined.
- There is also one more thing an Exception request which is the process of requesting an extension on the deadline for a particular Enhancement.

# Code Freeze

## Week 12

- This ensures that all the enhancements going into the release must be code complete and tests done.
- The PR should be in a merge-ready state with approved and LGTM labels applied.
- During this period only critical bug fixes are released into the release.
- Process of removing an Enhancement from a release milestone if it is not fully implemented or is otherwise considered unstable is pruning.
- We also have the Beta release available by this week.

# Docs Deadline

week 9-12

- Most of the times for the deprecations and changes, it should be documented to help users learn about it.
- Publish the deprecations and removals blog by communications team.
- Most of the features are so big and major that they needs a feature blog seperately.

# Test Freeze and Docs Freeze

week 13

- The day after no more test are changed.
- If any test finds to be failing either they are removed or reverted.
- Only in the case of release-blocking test it is fixed or updated.
- Enhancements that are determined to require documentation must have their docs PRs in a ready to merge.

# Thaw

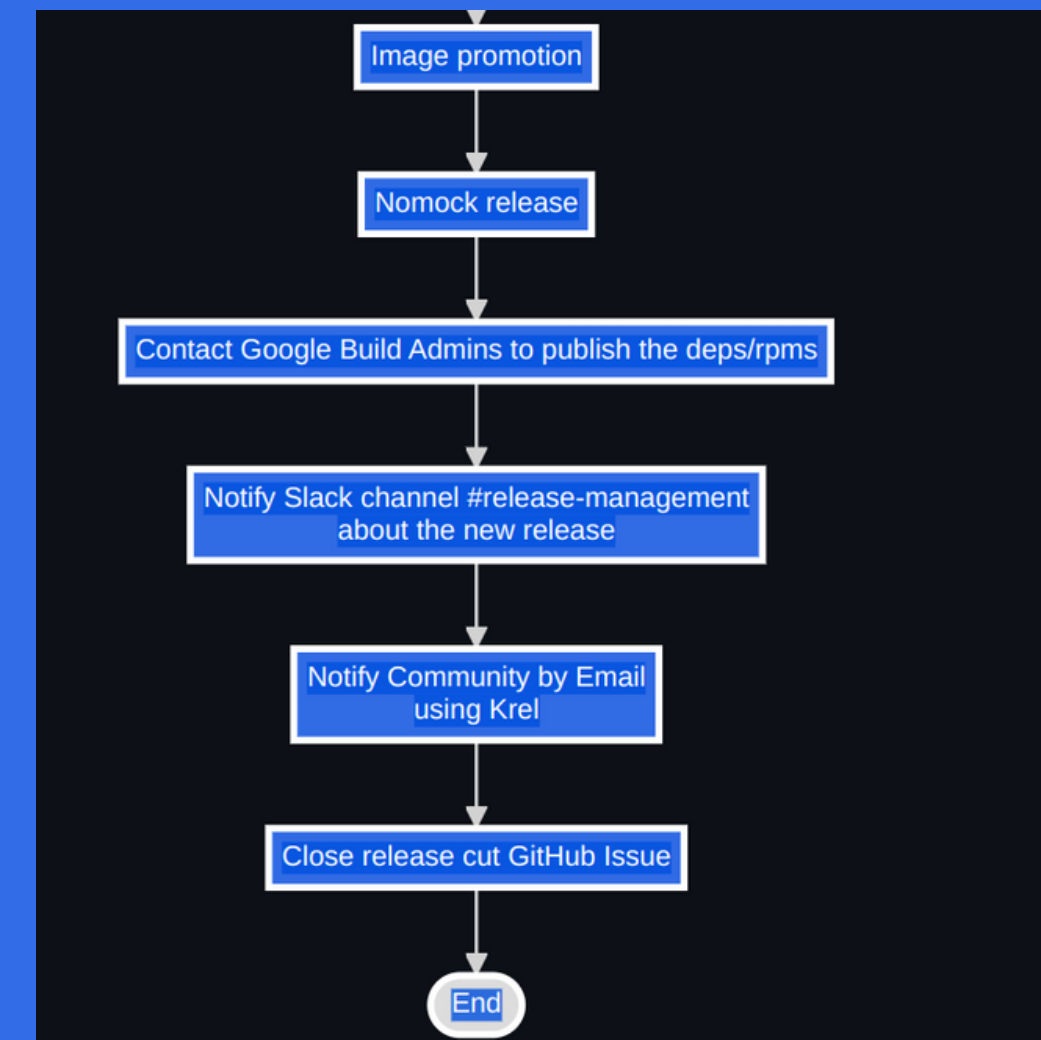
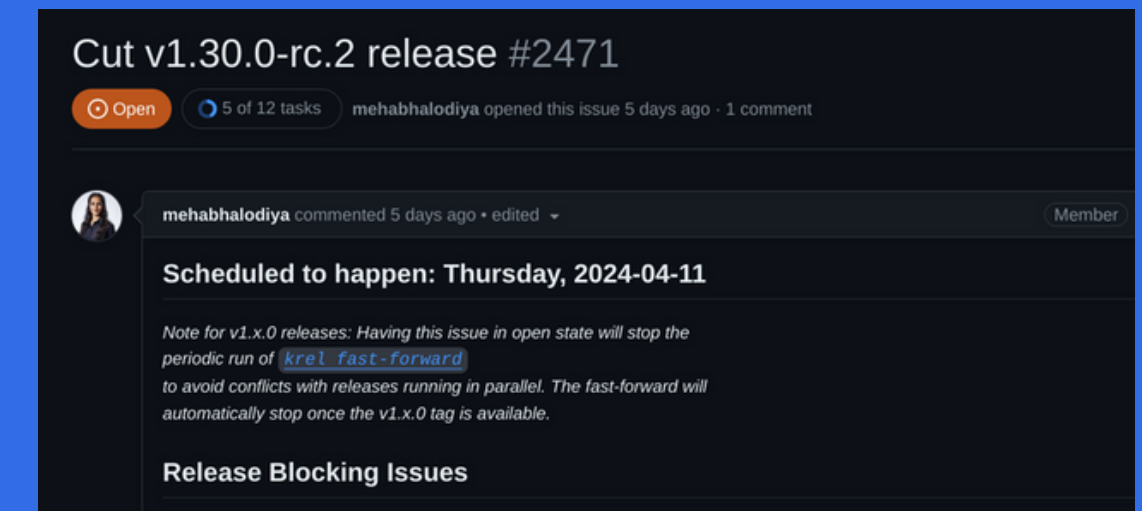
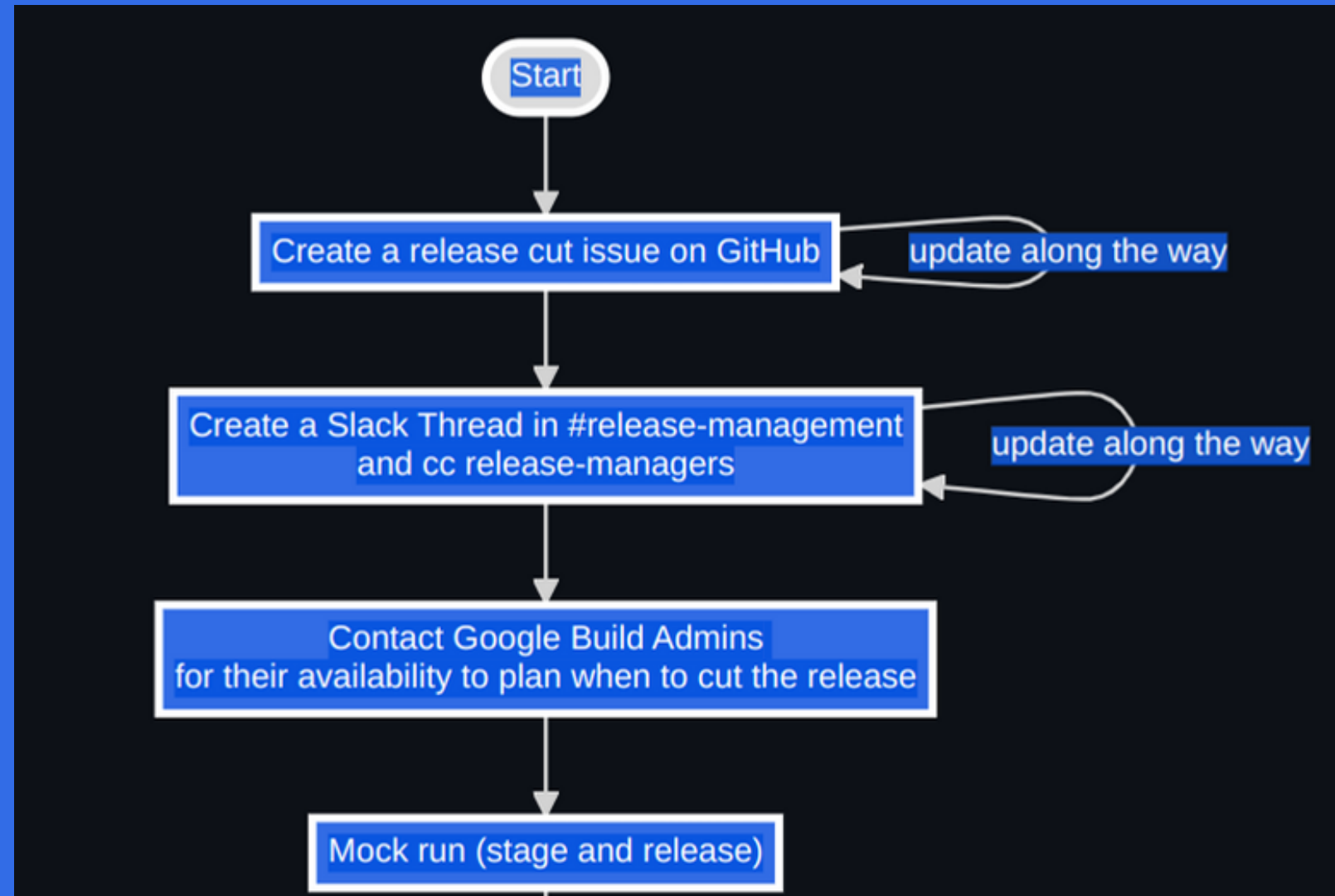
week 14

**Thaw specifies the end of both Code Freeze and Test Freeze.**

At this point it is expected that all outstanding PRs for the release of Kubernetes have been merged into the release branch.

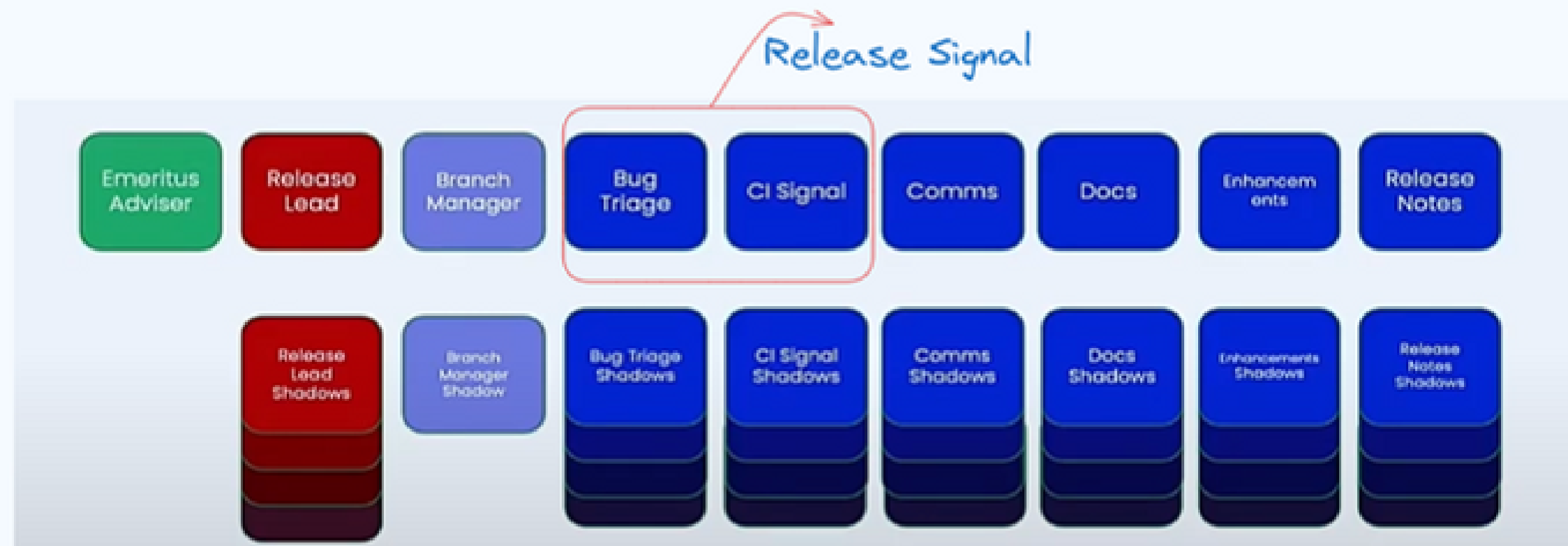


# Cutting the release (creating the final pkg) Week 15



# Release Team

- Release Team is responsible for successful release of Kubernetes versions.
- There are around 30-35 people in the team across the globe.
- There are 8 roles.

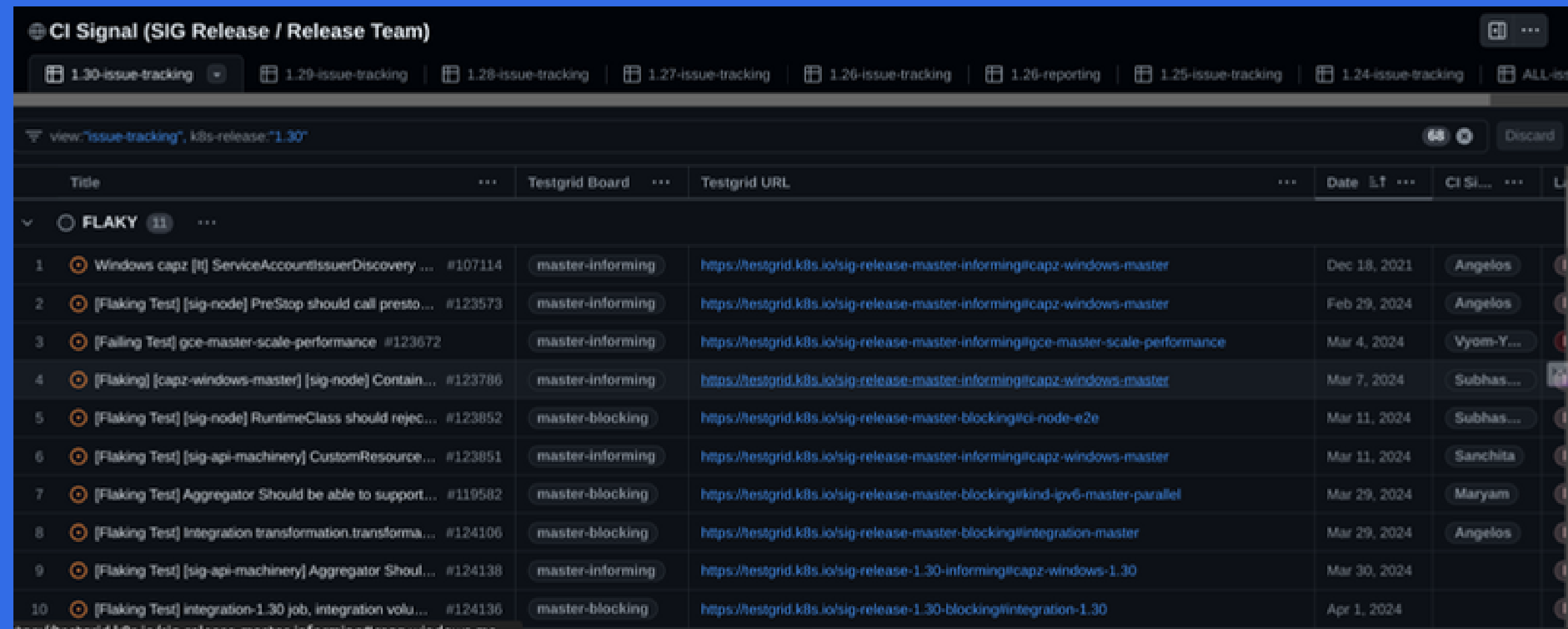


# Enhancements

- Maintains the status of Kubernetes Enhancements Proposals or KEP(s)
- Reach out to different SIGs and ask them to finish their issue templates for the proposal.
- Responsible for tracking issues in the Kubernetes/Enhancements repository
- Track the progress of issue alpha to beta to graduated to stable.
- First 8 weeks are very hectic for the Enhancements team.

# Release signal

- Manage Issues/PRs
- Monitor e2e tests
- Automate tracking
- Triage issues
- Track blockers



The screenshot shows the 'CI Signal (SIG Release / Release Team)' dashboard. At the top, there are tabs for various issue-tracking views: 1.30-issue-tracking (selected), 1.29-issue-tracking, 1.28-issue-tracking, 1.27-issue-tracking, 1.26-issue-tracking, 1.26-reporting, 1.25-issue-tracking, 1.24-issue-tracking, and ALL-issues. Below the tabs, a search bar contains the text 'view:"issue-tracking", k8s-release:"1.30"'. The main content is a table with columns: Title, Testgrid Board, Testgrid URL, Date, and CI Signal. The table lists 10 issues, all marked as 'FLAKY' with a red circle icon. The issues are numbered 1 through 10. The first issue is 'Windows capz [It] ServiceAccountIssuerDiscovery ... #107114' with a 'master-informing' status. The second issue is '[Flaking Test] [sig-node] PreStop should call presto... #123573' with a 'master-informing' status. The third issue is '[Failing Test] gce-master-scale-performance #123672' with a 'master-informing' status. The fourth issue is '[Flaking] [capz-windows-master] [sig-node] Contain... #123786' with a 'master-informing' status. The fifth issue is '[Flaking Test] [sig-node] RuntimeClass should rejec... #123852' with a 'master-blocking' status. The sixth issue is '[Flaking Test] [sig-api-machinery] CustomResource... #123851' with a 'master-informing' status. The seventh issue is '[Flaking Test] Aggregator Should be able to support... #119582' with a 'master-blocking' status. The eighth issue is '[Flaking Test] Integration transformation.transforma... #124106' with a 'master-blocking' status. The ninth issue is '[Flaking Test] [sig-api-machinery] Aggregator Shoul... #124138' with a 'master-informing' status. The tenth issue is '[Flaking Test] integration-1.30 job, integration volu... #124136' with a 'master-blocking' status.

	Title	Testgrid Board	Testgrid URL	Date	CI Si...
1	Windows capz [It] ServiceAccountIssuerDiscovery ... #107114	master-informing	https://testgrid.k8s.io/sig-release-master-informing#capz-windows-master	Dec 18, 2021	Angelos
2	[Flaking Test] [sig-node] PreStop should call presto... #123573	master-informing	https://testgrid.k8s.io/sig-release-master-informing#capz-windows-master	Feb 29, 2024	Angelos
3	[Failing Test] gce-master-scale-performance #123672	master-informing	https://testgrid.k8s.io/sig-release-master-informing#gce-master-scale-performance	Mar 4, 2024	Vyom-Y...
4	[Flaking] [capz-windows-master] [sig-node] Contain... #123786	master-informing	https://testgrid.k8s.io/sig-release-master-informing#capz-windows-master	Mar 7, 2024	Subhas...
5	[Flaking Test] [sig-node] RuntimeClass should rejec... #123852	master-blocking	https://testgrid.k8s.io/sig-release-master-blocking#ci-node-e2e	Mar 11, 2024	Subhas...
6	[Flaking Test] [sig-api-machinery] CustomResource... #123851	master-informing	https://testgrid.k8s.io/sig-release-master-informing#capz-windows-master	Mar 11, 2024	Sanchita
7	[Flaking Test] Aggregator Should be able to support... #119582	master-blocking	https://testgrid.k8s.io/sig-release-master-blocking#kind-ipv6-master-parallel	Mar 29, 2024	Maryam
8	[Flaking Test] Integration transformation.transforma... #124106	master-blocking	https://testgrid.k8s.io/sig-release-master-blocking#integration-master	Mar 29, 2024	Angelos
9	[Flaking Test] [sig-api-machinery] Aggregator Shoul... #124138	master-informing	https://testgrid.k8s.io/sig-release-1.30-informing#capz-windows-1.30	Mar 30, 2024	
10	[Flaking Test] integration-1.30 job, integration volu... #124136	master-blocking	https://testgrid.k8s.io/sig-release-1.30-blocking#integration-1.30	Apr 1, 2024	

# Documentation

- Responsible for documentation updates for the next Kubernetes release.
- Ensures new and graduating features have appropriate documentation.

Kubernetes Documentation / Reference / Component tools / Feature Gates

## Feature Gates

This page contains an overview of the various feature gates an administrator can specify on different Kubernetes components.

See [feature stages](#) for an explanation of the stages for a feature.

Kubernetes Documentation / Reference / API Overview  
/ Deprecated API Migration Guide

## Deprecated API Migration Guide

As the Kubernetes API evolves, APIs are periodically reorganized or upgraded. When APIs evolve, the old API is deprecated and eventually removed. This page contains information you need to know when migrating from deprecated API versions to newer and more stable API versions.



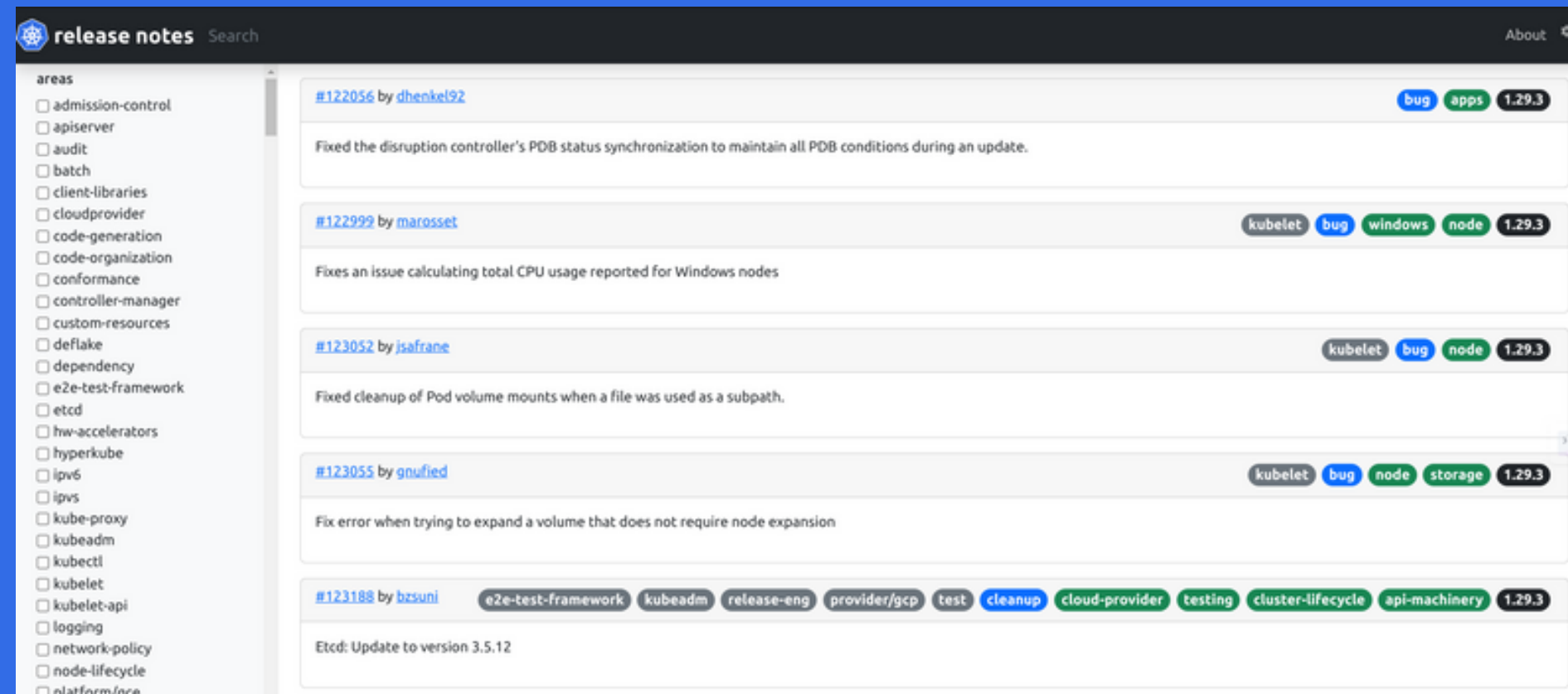
# Communications

- Responsible for communication in and outside the Kubernetes.
- Authors the Kubernetes release blog.
- Coordinate and support of the feature blog series and optional deprecations blog.
- Schedules press activities and the post-release webinar



# Release Notes

- Responsible for generating and editing release-notes.
- There is a tool Krel, which helps draft the PR for release Notes by the help of some subcommands.



# Branch Management

- Responsible for cutting the release

# Release Lead

- Coordinating release activities
- Assemble the release team
- Accountable for all release tasks to be completed on time
- Trains release lead shadows

# Emeritus Advisor

- Lead retrospectives
- Track AIs
- Assist selection
- Shadow orientation
- Check leads
- Offer support
- Conduct surveys
- Facilitate retrospectives



# How to apply?

# Thank you

Scan the QR to connect with me

