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Which Kubernetes apiVersion Should I Use?

An object definition in Kubernetes requires an `apiVersion` field. When Kubernetes has a release that updates what is available for you to use—changes something in its API—a new `apiVersion` is created.

However, the official Kubernetes documentation provides little guidance on `apiVersion`. This guide gives you a cheat sheet on which version to use, explains each version, and gives you the timeline of releases.

Last updated 4 June, 2018. [Contact me](#) to report inaccuracies.

Get my book [Golden Guide to Kubernetes Application Development](#). If you're a web application developer who wants to become a Kubernetes expert very quickly, check out the book.

Which apiVersion should I use?

Kind	apiVersion
CertificateSigningRequest	certificates.k8s.io/v1beta1
ClusterRoleBinding	rbac.authorization.k8s.io/v1
ClusterRole	rbac.authorization.k8s.io/v1
ComponentStatus	v1
ConfigMap	v1
ControllerRevision	apps/v1
CronJob	batch/v1beta1
DaemonSet	extensions/v1beta1
Deployment	extensions/v1beta1
Endpoints	v1
Event	v1
HorizontalPodAutoscaler	autoscaling/v1
Ingress	extensions/v1beta1
Job	batch/v1
LimitRange	v1
Namespace	v1
NetworkPolicy	extensions/v1beta1
Node	v1
PersistentVolumeClaim	v1
PersistentVolume	v1
PodDisruptionBudget	policy/v1beta1
Pod	v1
PodSecurityPolicy	extensions/v1beta1
PodTemplate	v1
ReplicaSet	extensions/v1beta1
ReplicationController	v1
ResourceQuota	v1
RoleBinding	rbac.authorization.k8s.io/v1
Role	rbac.authorization.k8s.io/v1
Secret	v1
ServiceAccount	v1
Service	v1
StatefulSet	apps/v1

What does each apiVersion mean?

alpha

API versions with ‘alpha’ in their name are early candidates for new functionality coming into Kubernetes. These may contain bugs and are not guaranteed to work in the future.

beta

‘beta’ in the API version name means that testing has progressed past alpha level, and that the feature will eventually be included in Kubernetes. Although the way it works might change, and the way objects are defined may change completely, the feature itself is highly likely to make it into Kubernetes in some form.

stable

These do not contain ‘alpha’ or ‘beta’ in their name. They are safe to use.

v1

This was the first stable release of the Kubernetes API. It contains many core objects.

apps/v1

apps is the most common API group in Kubernetes, with many core objects being drawn from it and v1. It includes functionality related to running applications on Kubernetes, like Deployments, RollingUpdates, and ReplicaSets.

autoscaling/v1

This API version allows pods to be autoscaled based on different resource usage metrics. This stable version includes support for only CPU scaling, but future alpha and beta versions will allow you to scale based on memory usage and custom metrics.

batch/v1

The batch API group contains objects related to batch processing and job-like tasks (rather than application-like tasks like running a webserver indefinitely). This apiVersion is the first stable release of these API objects.

batch/v1beta1

A beta release of new functionality for batch objects in Kubernetes, notably including CronJobs that let you run Jobs at a specific time or periodicity.

certificates.k8s.io/v1beta1

This API release adds functionality to validate network certificates for secure communication in your cluster. You can read more [on the official docs](#).

extensions/v1beta1

This version of the API includes many new, commonly used features of Kubernetes. Deployments, DaemonSets, ReplicaSets, and Ingresses all received significant changes in this release.

Note that in Kubernetes 1.6, some of these objects were relocated from extensions to specific API groups (e.g. apps). When these objects move out of beta, expect them to be in a specific API group like apps/v1. Using extensions/v1beta1 is becoming deprecated—try to use the specific API group where possible, depending on your Kubernetes cluster version.

policy/v1beta1

This apiVersion adds the ability to set a pod disruption budget and new rules around pod security.

rbac.authorization.k8s.io/v1

This apiVersion includes extra functionality for Kubernetes role-based access control. This helps you to secure your cluster. Check out [the official blog post](#).





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