

Version	Release Date	End of Life	Main Features
1.0	10 July 2015		<ul style="list-style-type: none"> <li>- First stable release</li> <li>- Introduced Pods, Services, ReplicaSets, Deployments, and Labels</li> </ul>
1.1	9 November 2015		<ul style="list-style-type: none"> <li>- Substantial performance improvements</li> <li>- Significant improvement in network throughput</li> <li>- Horizontal pod autoscaling (Beta)</li> <li>- HTTP load balancer (Beta)</li> <li>- Job objects (Beta)</li> <li>- New features to shorten the test cycle for developers</li> <li>- Rolling update improvements</li> </ul>
1.2	16 March 2016	23 October 2016	<ul style="list-style-type: none"> <li>- Cluster scale increased to 1,000 nodes and 30,000 containers</li> <li>- Dynamic Configuration via ConfigMap API</li> <li>- Turnkey Deployments via Beta Deployment API</li> <li>- Improved reliability through cross-zone failover and multi-zone scheduling</li> <li>- Simplified One-Pod-Per-Node Applications via Beta DaemonSet API</li> <li>- TLS and L7 support via Beta Ingress API</li> <li>- Graceful Node Shutdown (Node Drain)</li> <li>- Custom Metrics for Autoscaling</li> <li>- New GUI for improved interface</li> <li>- Slimmed down documentation contribution process and website relaunch</li> <li>- Bounty program for addressing "bounty bug"</li> <li>- Ongoing development for improved stateful application support, cluster federation, performance improvements, in-cluster IAM, cluster autoscaling, scheduled job, and public dashboard for nightly test runs</li> </ul>

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1.3	1 July 2016	November 2016	<ul style="list-style-type: none"><li>- Increased scale and automation: Autoscaling clusters, doubling max nodes per cluster</li><li>- Cross-cluster federated services for higher availability and hybrid/multi-cloud scenarios</li><li>- Stateful applications: Introducing 'PetSet' object for stateful workloads</li><li>- Ease of use for local development: Introducing Minikube for local Kubernetes cluster</li><li>- Support for rkt and container standards OCI &amp; CNI</li><li>- Updated Kubernetes dashboard UI</li><li>- Many more updates, refer to release notes on GitHub</li></ul>

Version	Release Date	End of Life	Main Features
1.4	26 September 2016	21 April 2017	<ul style="list-style-type: none"> <li>- Simplified cluster deployment on any cloud</li> <li>- Easy installation of stateful apps</li> <li>- Expanded Cluster Federation capabilities</li> <li>- Cluster creation with two commands using 'kubeadm'</li> <li>- Streamlined installation with familiar tools such as apt-get and yum</li> <li>- Add-on deployments reduced to one command using a DaemonSet</li> <li>- Introduction of ScheduledJob for running batch jobs at regular intervals</li> <li>- Beta release of init-containers for running containers before the main application</li> <li>- Beta release of Dynamic PVC Provisioning for exposing multiple storage provisioners</li> <li>- Curated and pre-tested Helm charts for common stateful applications</li> <li>- Beta release of Federated Replica Sets for cross-region or cross-cloud replication</li> <li>- Beta release of Federated Services, secrets, events, and namespaces in the federation API</li> <li>- Alpha release of Federated Ingress for creating a single globally load balanced VIP</li> <li>- Pod Security Policy for controlling security contexts for pods/containers</li> <li>- AppArmor support for more secure deployments</li> <li>- Scheduler enhancements with inter-pod affinity and anti-affinity</li> <li>- Pod Disruption Budget for limiting impact of deleted pods during cluster management operations</li> <li>- New volume plugins for Quobyte and Azure Data Disk</li> <li>- Swagger 2.0 support for non-Go clients</li> <li>- Kubernetes Dashboard UI with CLI parity for at-a-glance management</li> </ul>

Version	Release Date	End of Life	Main Features
1.5	12 December 2016	1 October 2017	<ul style="list-style-type: none"> <li>- StatefulSet and PodDisruptionBudget now in beta for easier deployment and scaling of stateful applicati</li> <li>- Usability improvements, including enhancements to kubectl command line interf</li> <li>- Introduction of 'kubefed' command line tool for multi-cluster federation se</li> <li>- Multi-zone Highly Available (HA) master setup script in kube</li> <li>- Alpha support for Windows containers for .NET develop</li> <li>- Introduction of Container Runtime Interface (CRI) for flexibility in selecting container runti</li> <li>- Containerized node conformance tests to verify minimum requirements for joining a Kubernetes cluster</li> </ul>

Version	Release Date	End of Life	Main Features
1.6	28 March 2017	23 November 2017	<ul style="list-style-type: none"> <li>- Support for 5,000 node clusters</li> <li>- Federation to combine multiple Kubernetes clusters</li> <li>- Role-based access control (RBAC)</li> <li>- Kubefed, kubeadm, and several scheduling features in beta</li> <li>- Intelligent defaults for greater automation</li> <li>- RBAC for enhanced security</li> <li>- Kubeadm for easy cluster provisioning</li> <li>- Advanced scheduling options for greater control over pod placement</li> <li>- Dynamic storage provisioning with StorageClass and dynamic volume provisioning</li> <li>- Support for various storage options including ScaleIO and Portworx</li> <li>- Updates to container runtime interface, etcd v3, and daemon set</li> <li>- Introduction of alpha features such as out-of-tree cloud provider support and pod injection policy</li> <li>- Community-driven release process and user adoption stories</li> </ul>

Version	Release Date	End of Life	Main Features
1.7	30 June 2017	4 April 2018	<ul style="list-style-type: none"> <li>- Encrypted secrets</li> <li>- Network policy for pod-to-pod communication</li> <li>- Node authorizer to limit kubelet access</li> <li>- Client/server TLS certificate rotation</li> <li>- Automated updates for StatefulSets</li> <li>- Enhanced updates for DaemonSets</li> <li>- Alpha support for local storage</li> <li>- Burst mode for scaling StatefulSets faster</li> <li>- API aggregation for user-provided apiservers</li> <li>- Extensible admission controllers</li> <li>- Pluggable cloud providers</li> <li>- Container runtime interface (CRI) enhancements</li> <li>- Network Policy API promoted to stable</li> <li>- Encryption for secrets and resources in etcd (alpha)</li> <li>- Kubelet TLS bootstrapping with certificate rotation</li> <li>- Customizable and extensible audit logs</li> <li>- StatefulSet updates for stateful applications</li> <li>- Faster scaling and startup for StatefulSets</li> <li>- Local storage volumes for stateful applications</li> <li>- Smart rollback and history capability for DaemonSets</li> <li>- StorageOS Volume plugin for persistent volumes</li> <li>- API aggregation at runtime for added APIs</li> <li>- Enhanced Container Runtime Interface (CRI) with new RPC calls</li> <li>- Alpha support for external admission controllers</li> <li>- Policy-based Federated Resource Placement (alpha)</li> <li>- Third Party Resource (TPR) replaced with Custom Resource Definitions (CRD)</li> </ul>

Version	Release Date	End of Life	Main Features
1.8	28 August 2017	12 July 2018	<ul style="list-style-type: none"> <li>- Role-based access control (RBAC) support</li> <li>- Network policies for outbound traffic filtering</li> <li>- Transport Layer Security (TLS) certificate rotation for Kubelet</li> <li>- Beta support for core Workload APIs (Deployment, DaemonSet, ReplicaSet, StatefulSet)</li> <li>- Native Kubernetes support in Apache Spark for Big Data workloads</li> <li>- Beta release of CronJobs for batch workloads</li> <li>- Custom Resource Definitions (CRDs) for extending Kubernetes with user-defined API objects</li> <li>- Alpha features for volume snapshots, PV resizing, automatic taints, priority pods, kubectl plugins</li> </ul>
1.9	15 December 2017	29 September 2018	<ul style="list-style-type: none"> <li>- General Availability (GA) of the apps/v1 Workloads API</li> <li>- Beta release of Windows support</li> <li>- Alpha implementation of the Container Storage Interface (CSI)</li> <li>- Custom Resource Definition (CRD) Validation graduating to beta</li> <li>- SIG Node hardware accelerator moves to alpha</li> <li>- CoreDNS alpha installation with standard tools</li> <li>- IPVS mode for kube-proxy goes beta</li> </ul>

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1.10	28 March 2018	13 February 2019	<ul style="list-style-type: none"> <li>- External kubectl credential providers (alpha)</li> <li>- Switch DNS service to CoreDNS at install time (beta)</li> <li>- Container Storage Interface (CSI) and persistent local volumes move to beta</li> <li>- Durable (non-shared) local storage management progresses to beta</li> <li>- Automatic prevention of deletion of Persistent Volume Claims and Persistent Volumes in use (beta)</li> <li>- External credential providers for authentication (alpha)</li> <li>- CoreDNS as a DNS provider (beta)</li> </ul>
1.11	3 July 2018	1 May 2019	<ul style="list-style-type: none"> <li>- IPVS-Based In-Cluster Service Load Balancing (graduated to general availability)</li> <li>- CoreDNS as a cluster DNS add-on option (graduated to general availability)</li> <li>- Dynamic Kubelet Configuration (moved to beta)</li> <li>- Multiple Versions for Custom Resource Definitions (beta feature)</li> <li>- Enhancements to CSI (Container Storage Interface)</li> <li>- Online Resizing of Persistent Volumes (alpha feature)</li> <li>- Dynamic Maximum Volume Count (alpha feature)</li> <li>- StorageObjectInUseProtection (stable feature)</li> </ul>



Version	Release Date	End of Life	Main Features
1.12	27 September 2018	8 July 2019	<ul style="list-style-type: none"> <li>- General Availability of Kubelet TLS Bootstrap</li> <li>- Support for Azure Virtual Machine Scale Sets (VMSS) and Cluster-Autoscaler</li> <li>- RuntimeClass as an alpha feature</li> <li>- Snapshot / restore functionality for Kubernetes and CSI as an alpha feature</li> <li>- Topology aware dynamic provisioning in beta, including support to AWS EBS and GCE PD</li> <li>- Configurable pod process namespace sharing in beta</li> <li>- Taint node by condition in beta</li> <li>- Arbitrary / Custom Metrics in the Horizontal Pod Autoscaler in second beta</li> <li>- Improvements for faster Horizontal Pod Autoscaler sizing in beta</li> <li>- Vertical Scaling of Pods in beta</li> <li>- Encryption at rest via KMS in beta with multiple encryption providers</li> </ul>
1.13	3 December 2018	15 October 2019	<ul style="list-style-type: none"> <li>- Kubernetes 1.13 focuses on stability and extensibility</li> <li>- Kubeadm is now officially GA, providing simplified cluster management</li> <li>- Container Storage Interface (CSI) is now GA, making the Kubernetes volume layer extensible</li> <li>- CoreDNS replaces kube-dns as the default DNS server for Kubernetes</li> <li>- Support for 3rd party device monitoring plugins introduced</li> <li>- Kubelet Device Plugin Registration is graduating to stable</li> <li>- Topology Aware Volume Scheduling is now stable</li> <li>- APIServer DryRun is graduating to beta</li> <li>- Kubectl Diff is graduating to beta</li> <li>- Raw block device using persistent volume source is graduating to beta</li> </ul>

Version	Release Date	End of Life	Main Features
1.14	25 March 2019	11 December 2019	<ul style="list-style-type: none"> <li>- Production-level support for Windows Nodes</li> <li>- Notable updates to kubectl including new documentation and logo, and integration with kustomize</li> <li>- Graduation of the kubectl plugin mechanism to stable</li> <li>- Persistent Local Volumes are now generally available</li> <li>- PID Limiting moving to beta</li> <li>- Additional notable feature updates including Pod priority and preemption, Pod Readiness Gates, and RBAC discovery clusterrolebindings hardening</li> </ul>
1.15	20 June 2019	6 May 2020	<ul style="list-style-type: none"> <li>- Extensibility around core Kubernetes APIs</li> <li>- CustomResourceDefinition Webhook Conversion</li> <li>- CustomResourceDefinition OpenAPI Publishing</li> <li>- CustomResourceDefinitions Pruning</li> <li>- CustomResourceDefinition Defaulting</li> <li>- Admission Webhook Reinvocation &amp; Improvements</li> <li>- Cluster Lifecycle Stability and Usability Improvements</li> <li>- Continued improvement of CSI</li> <li>- Support for go modules in Kubernetes Core</li> <li>- Kubectl get and describe now work with extensions</li> <li>- Nodes now support third party monitoring plugins</li> <li>- New Scheduling Framework for schedule plugins</li> <li>- ExecutionHook API designed to trigger hook commands in the containers</li> <li>- Deprecation of extensions/v1beta1, apps/v1beta1, and apps/v1beta2 APIs</li> </ul>

Version	Release Date	End of Life	Main Features
1.16	22 October 2019	2 September 2020	<ul style="list-style-type: none"> <li>- CRDs (Custom Resources) have graduated to general availability (GA)</li> <li>- Overhauled metrics implementation for better transparency and stability</li> <li>- Volume resizing support in CSI specs is now in beta</li> <li>- Significant changes to the Kubernetes API, with older versions of resources being deprecated</li> <li>- Custom Resources have reached GA, with focus on data consistency for API clients</li> <li>- Enhancements to Windows containers, including GMSA support and RunAsUserName</li> <li>- Alpha support for kubeadm for Windows worker nodes</li> <li>- Introducing support for Container Storage Interface (CSI) for Windows nodes</li> <li>- Introduction of the EndpointSlice API for greater scalability and extensibility</li> </ul>

Version	Release Date	End of Life	Main Features
1.17	9 December 2019	13 January 2021	<ul style="list-style-type: none"> <li>- Cloud Provider Labels reach General Availability</li> <li>- Volume Snapshot Moves to Beta</li> <li>- CSI Migration Beta</li> <li>- Taint Node by Condition</li> <li>- Configurable Pod Process Namespace Sharing</li> <li>- Schedule DaemonSet Pods by kube-scheduler</li> <li>- Dynamic Maximum Volume Count</li> <li>- Kubernetes CSI Topology Support</li> <li>- Provide Environment Variables Expansion in SubPath Mount</li> <li>- Defaulting of Custom Resources</li> <li>- Move Frequent Kubelet Heartbeats To Lease Api</li> <li>- Break Apart The Kubernetes Test Tarball</li> <li>- Add Watch Bookmarks Support</li> <li>- Behavior-Driven Conformance Testing</li> <li>- Finalizer Protection For Service Loadbalancers</li> <li>- Avoid Serializing The Same Object Independently For Every Watcher</li> <li>- Add IPv4/IPv6 Dual Stack Support</li> <li>- Topology Aware Routing of Services (Alpha)</li> <li>- RunAsUserName for Windows</li> </ul>

Version	Release Date	End of Life	Main Features
1.18	25 March 2020	18 June 2021	<ul style="list-style-type: none"> <li>- Kubernetes Topology Manager Moves to Beta</li> <li>- Serverside Apply Introduces Beta 2</li> <li>- Extending Ingress with new pathType field and IngressClass resource</li> <li>- SIG-CLI introduces kubectrl alpha debug</li> <li>- Introducing Windows CSI support alpha for Kubernetes</li> <li>- Taint Based Eviction</li> <li>- kubectrl diff</li> <li>- CSI Block storage support</li> <li>- API Server dry run</li> <li>- Pass Pod information in CSI calls</li> <li>- Support Out-of-Tree vSphere Cloud Provider</li> <li>- Support GMSA for Windows workloads</li> <li>- Skip attach for non-attachable CSI volumes</li> <li>- PVC cloning</li> <li>- Moving kubectrl package code to staging</li> <li>- RunAsUserName for Windows</li> <li>- AppProtocol for Services and Endpoints</li> <li>- Extending Hugepage Feature</li> <li>- client-go signature refactor to standardize options and context handling</li> <li>- Node-local DNS cache</li> <li>- EndpointSlice API</li> </ul>
1.19	26 August 2020	28 October 2021	<ul style="list-style-type: none"> <li>- Kubernetes support window extended to one year</li> <li>- Storage capacity tracking</li> <li>- Generic ephemeral volumes</li> <li>- CSI Volume Health Monitoring</li> <li>- Ingress graduates to General Availability</li> <li>- Structured logging</li> <li>- Client TLS certificate rotation for kubelet</li> </ul>

Version	Release Date	End of Life	Main Features
<a href="#">1.20</a>	8 December 2020	28 February 2022	<ul style="list-style-type: none"> <li>- Volume Snapshot Operations Goes Stable</li> <li>- Kubectl Debug Graduates to Beta</li> <li>- API Priority and Fairness (APF) Enabled by Default</li> <li>- IPV4/IPV6 Dual Stack Support</li> <li>- Process PID Limiting for Stability</li> <li>- Graceful Node Shutdown (Alpha)</li> <li>- Dockershim Deprecation</li> <li>- Exec Probe Timeout Handling</li> <li>- Graduated to Stable: RuntimeClass, Built-in API Types Defaults, Add Pod-Startup Liveness-Probe Holdoff, Support CRI-ContainerD On Windows, SCTP Support for Services, Adding AppProtocol To Services And Endpoints</li> </ul>
<a href="#">1.21</a>	8 April 2021	28 June 2022	<ul style="list-style-type: none"> <li>- CronJobs graduate to stable</li> <li>- Immutable Secrets and ConfigMaps</li> <li>- IPv4/IPv6 dual-stack support</li> <li>- Graceful Node Shutdown</li> <li>- PersistentVolume Health Monitor</li> <li>- Reduction of Kubernetes Build Maintenance</li> <li>- PodSecurityPolicy deprecation</li> <li>- TopologyKeys deprecation</li> </ul>
<a href="#">1.22</a>	4 August 2021	28 October 2022	<ul style="list-style-type: none"> <li>- Server-side Apply graduates to GA</li> <li>- External credential providers now stable</li> <li>- etcd moves to 3.5.0</li> <li>- Quality of Service for memory resources</li> <li>- Node system swap support</li> <li>- Windows enhancements and capabilities</li> <li>- Default profiles for seccomp</li> <li>- More secure control plane with kubeadm</li> <li>- Removal of several deprecated beta APIs</li> <li>- API changes and improvements for ephemeral containers</li> </ul>

Version	Release Date	End of Life	Main Features
1.23	7 December 2021	28 February 2023	<ul style="list-style-type: none"> <li>- Deprecation of FlexVolume</li> <li>- Deprecation of klog specific flags</li> <li>- Software Supply Chain SLSA Level 1 Compliance in the Kubernetes Release Process</li> <li>- IPv4/IPv6 Dual-stack Networking graduates to GA</li> <li>- HorizontalPodAutoscaler v2 graduates to GA</li> <li>- Generic Ephemeral Volume feature graduates to GA</li> <li>- Skip Volume Ownership change graduates to GA</li> <li>- Allow CSI drivers to opt-in to volume ownership and permission change graduates to GA</li> <li>- PodSecurity graduates to Beta</li> <li>- Container Runtime Interface (CRI) v1 is default</li> <li>- Structured logging graduate to Beta</li> <li>- Simplified Multi-point plugin configuration for scheduler</li> <li>- CSI Migration updates</li> <li>- Expression language validation for CRD is alpha</li> <li>- Server Side Field Validation is Alpha</li> <li>- OpenAPI v3 is Alpha</li> </ul>

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1.24	3 May 2022	28 July 2023	<ul style="list-style-type: none"> <li>- Dockershim component removed from kubelet</li> <li>- Beta APIs off by default</li> <li>- Signing Release Artifacts with cosign signatures</li> <li>- OpenAPI v3 support</li> <li>- Storage Capacity and Volume Expansion generally available</li> <li>- NonPreemptingPriority feature added to PriorityClasses</li> <li>- Storage Plugin Migration to CSI Plugins</li> <li>- gRPC probes graduate to beta</li> <li>- Kubelet Credential Provider graduates to beta</li> <li>- Contextual Logging introduced in alpha</li> <li>- IP collision avoidance for Services</li> <li>- Dynamic Kubelet Configuration removed from the Kubelet</li> <li>- CSI Snapshot v1beta1 CRD removed</li> </ul>



Version	Release Date	End of Life	Main Features
1.25	23 August 2022	27 October 2023	<ul style="list-style-type: none"> <li>- PodSecurityPolicy is removed; Pod Security Admission graduates to Stable</li> <li>- Ephemeral Containers graduate to Stable</li> <li>- Support for cgroups v2 graduates to Stable</li> <li>- Improved Windows support</li> <li>- Promoted SeccompDefault to Beta</li> <li>- Promoted endPort in Network Policy to Stable</li> <li>- Promoted Local Ephemeral Storage Capacity Isolation to Stable</li> <li>- Promoted core CSI Migration to Stable</li> <li>- Promoted CSI Ephemeral Volume to Stable</li> <li>- Promoted CRD Validation Expression Language to Beta</li> <li>- Promoted Server Side Unknown Field Validation to Beta</li> <li>- Introduced KMS v2 API</li> <li>- Kube-proxy images are now based on distroless images</li> <li>- Graduations to Stable: Ephemeral Containers, Local Ephemeral Storage Resource Management, CSI Ephemeral Volumes, CSI Migration - Core, kube-scheduler ComponentConfig, CSI Migration - AWS, CSI Migration - GCE, DaemonSets Support MaxSurge, NetworkPolicy Port Range, cgroups v2, Pod Security Admission, Add minReadySeconds to Statefulsets, Identify Windows pods at API admission level authoritatively.</li> <li>- Deprecations and Removals: PodSecurityPolicy, GlusterFS plugin</li> </ul>

Version	Release Date	End of Life	Main Features
<a href="#">1.26</a>	9 December 2022	24 February 2024	<ul style="list-style-type: none"> <li>- Change in container image registry</li> <li>- Removal of CRI v1alpha2 support</li> <li>- Storage improvements (CSI migration, GlusterFS and OpenStack Cinder driver removal)</li> <li>- Signing Kubernetes release artifacts</li> <li>- Support for Windows privileged containers</li> <li>- Improvements to Kubernetes metrics</li> <li>- Dynamic Resource Allocation</li> <li>- CEL in Admission Control</li> <li>- Pod scheduling improvements (PodSchedulingReadiness and NodeInclusionPolicyInPodTopologySpread)</li> </ul>
<a href="#">1.27</a>	11 April 2023		<ul style="list-style-type: none"> <li>- Freeze of k8s.gcr.io image registry</li> <li>- SeccompDefault graduates to stable</li> <li>- Mutable scheduling directives for Jobs graduates to GA</li> <li>- DownwardAPIHugePages graduates to stable</li> <li>- Pod Scheduling Readiness goes to beta</li> <li>- Node log access via Kubernetes API</li> <li>- ReadWriteOncePod PersistentVolume access mode goes to beta</li> <li>- Respect PodTopologySpread after rolling upgrades</li> <li>- Faster SELinux volume relabeling using mounts</li> </ul>