

# Services: Node

## Kublet

```
exec kubelet --kubeconfig /etc/kubernetes/kubelet.conf \  
  --container-runtime-endpoint unix:///run/containerd/containerd.sock  
#/run/containerd/containerd.sock
```

### Usage: kublet

The kubelet is the primary "node agent" that runs on each node. It can register the node with the apiserver using one of: the hostname; a flag to override the hostname; or specific logic for a cloud provider.

The kubelet works in terms of a PodSpec. A PodSpec is a YAML or JSON object that describes a pod. The kubelet takes a set of PodSpecs that are provided through various mechanisms (primarily through the apiserver) and ensures that the containers described in those PodSpecs are running and healthy. The kubelet doesn't manage containers which were not created by Kubernetes.

Other than from a PodSpec from the apiserver, there are two ways that a container manifest can be provided to the Kubelet.

**File:** Path passed as a flag on the command line. Files under this path will be monitored periodically for updates. The monitoring period is 20s by default and is configurable via a flag.

**HTTP endpoint:** HTTP endpoint passed as a parameter on the command line. This endpoint is checked every 20 seconds (also configurable with a flag).

Usage:

```
kubelet [flags]
```

Flags:

`--address ip` The IP address for the Kubelet to serve on (set to '0.0.0.0' or ':::' for listening in all interfaces and IP families) (default 0.0.0.0) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--allowed-unsafe-sysctls strings` Comma-separated whitelist of unsafe sysctls or unsafe sysctl patterns (ending in \*). Use these at your own risk. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--anonymous-auth` Enables anonymous requests to the Kubelet server. Requests that are not rejected by another authentication method are treated as anonymous requests. Anonymous requests have a username of `system:anonymous`, and a group name of `system:unauthenticated`. (default true) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--application-metrics-count-limit int` Max number of application metrics to store (per container) (default 100) (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--authentication-token-webhook` Use the TokenReview API to determine authentication for bearer tokens. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--authentication-token-webhook-cache-ttl duration` The duration to cache responses from the webhook token authenticator. (default 2m0s) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--authorization-mode string` Authorization mode for Kubelet server. Valid options are `AlwaysAllow` or `Webhook`. `Webhook` mode uses the `SubjectAccessReview` API to determine authorization. (default "AlwaysAllow") (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--authorization-webhook-cache-authorized-ttl duration` The duration to cache

'authorized' responses from the webhook authorizer. (default 5m0s) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

--authorization-webhook-cache-unauthorized-ttl duration      The duration to cache 'unauthorized' responses from the webhook authorizer. (default 30s) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

--azure-container-registry-config string                      Path to the file containing Azure container registry configuration information.

--boot-id-file string    Comma-separated list of files to check for boot-id. Use the first one that exists. (default "/proc/sys/kernel/random/boot\_id") (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

--bootstrap-kubeconfig string                                      Path to a kubeconfig file that will be used to get client certificate for kubelet. If the file specified by --kubeconfig does not exist, the bootstrap kubeconfig is used to request a client certificate from the API server. On success, a kubeconfig file referencing the generated client certificate and key is written to the path specified by --kubeconfig. The client certificate and key file will be stored in the directory pointed by --cert-dir.

--cert-dir string    The directory where the TLS certs are located. If --tls-cert-file and --tls-private-key-file are provided, this flag will be ignored. (default "/var/lib/kubelet/pki")

--cgroup-driver string    Driver that the kubelet uses to manipulate cgroups on the host. Possible values: 'cgroupfs', 'systemd' (default "cgroupfs") (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

--cgroup-root string    Optional root cgroup to use for pods. This is handled by the container runtime on a best effort basis. Default: '', which means use the container runtime default. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

--cgroups-per-qos    Enable creation of QoS cgroup hierarchy, if true top level QoS and pod cgroups are created. (default true)

(DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--client-ca-file` string If set, any request presenting a client certificate signed by one of the authorities in the client-ca-file is authenticated with an identity corresponding to the CommonName of the client certificate. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--cloud-config` string The path to the cloud provider configuration file. Empty string for no configuration file. (DEPRECATED: will be removed in 1.25 or later, in favor of removing cloud provider code from Kubelet.)

`--cloud-provider` string The provider for cloud services. Set to empty string for running with no cloud provider. If set, the cloud provider determines the name of the node (consult cloud provider documentation to determine if and how the hostname is used). (DEPRECATED: will be removed in 1.25 or later, in favor of removing cloud provider code from Kubelet.)

`--cluster-dns` strings Comma-separated list of DNS server IP address. This value is used for containers DNS server in case of Pods with "dnsPolicy=ClusterFirst". Note: all DNS servers appearing in the list MUST serve the same set of records otherwise name resolution within the cluster may not work correctly. There is no guarantee as to which DNS server may be contacted for name resolution. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--cluster-domain` string Domain for this cluster. If set, kubelet will configure all containers to search this domain in addition to the host's search domains (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--config` string The Kubelet will load its initial configuration from this file. The path may be absolute or relative; relative paths start at the Kubelet's current working directory. Omit this flag to use the built-in default configuration values. Command-line flags override configuration from this file.

`--container-hints` string location of the container hints file (default "/etc/cadvisor/container\_hints.json") (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--container-log-max-files int32` <Warning: Beta feature>

Set the maximum number of container log files that can be present for a container. The number must be  $\geq 2$ . This flag can only be used with `--container-runtime=remote`. (default 5) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--container-log-max-size string` <Warning: Beta feature>

Set the maximum size (e.g. 10Mi) of container log file before it is rotated. This flag can only be used with `--container-runtime=remote`. (default "10Mi") (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--container-runtime string` The container runtime to

use. Possible value: 'remote'. (default "remote") (DEPRECATED: will be removed in 1.27 as the only valid value is 'remote')

`--container-runtime-endpoint string` The endpoint of remote

runtime service. Unix Domain Sockets are supported on Linux, while npipe and tcp endpoints are supported on Windows. Examples: 'unix:///path/to/runtime.sock', 'npipe:///./pipe/runtime'

`--containerd string` containerd endpoint

(default "/run/containerd/containerd.sock") (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--containerd-namespace string` containerd namespace

(default "k8s.io") (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--contention-profiling` Enable lock contention

profiling, if profiling is enabled (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--cpu-cfs-quota` Enable CPU CFS quota

enforcement for containers that specify CPU limits (default true) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--cpu-cfs-quota-period duration` Sets CPU CFS quota period

value, `cpu.cfs_period_us`, defaults to Linux Kernel default (default 100ms) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--cpu-manager-policy` string CPU Manager policy to use. Possible values: 'none', 'static'. (default "none") (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--cpu-manager-policy-options` mapStringString A set of key=value CPU Manager policy options to use, to fine tune their behaviour. If not supplied, keep the default behaviour. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--cpu-manager-reconcile-period` duration <Warning: Alpha feature> CPU Manager reconciliation period. Examples: '10s', or '1m'. If not supplied, defaults to 'NodeStatusUpdateFrequency' (default 10s) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--enable-controller-attach-detach` Enables the Attach/Detach controller to manage attachment/detachment of volumes scheduled to this node, and disables kubelet from executing any attach/detach operations (default true) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--enable-debugging-handlers` Enables server endpoints for log collection and local running of containers and commands (default true) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--enable-load-reader` Whether to enable cpu load reader (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--enable-server` Enable the Kubelet's server (default true) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/>

cluster/kubelet-config-file/ for more information.)

`--enforce-node-allocatable` strings A comma separated list of levels of node allocatable enforcement to be enforced by kubelet. Acceptable options are 'none', 'pods', 'system-reserved', and 'kube-reserved'. If the latter two options are specified, '--system-reserved-cgroup' and '--kube-reserved-cgroup' must also be set, respectively. If 'none' is specified, no additional options should be set. See <https://kubernetes.io/docs/tasks/administer-cluster/reserve-compute-resources/> for more details. (default [pods]) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--event-burst` int32 Maximum size of a bursty event records, temporarily allows event records to burst to this number, while still not exceeding event-qps. The number must be >= 0. If 0 will use DefaultBurst: 10. (default 10) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--event-qps` int32 QPS to limit event creations. The number must be >= 0. If 0 will use DefaultQPS: 5. (default 5) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--event-storage-age-limit` string Max length of time for which to store events (per type). Value is a comma separated list of key values, where the keys are event types (e.g.: creation, oom) or "default" and the value is a duration. Default is applied to all non-specified event types (default "default=0") (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--event-storage-event-limit` string Max number of events to store (per type). Value is a comma separated list of key values, where the keys are event types (e.g.: creation, oom) or "default" and the value is an integer. Default is applied to all non-specified event types (default "default=0") (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--eviction-hard` mapStringString A set of eviction thresholds (e.g. memory.available<1Gi) that if met would trigger a pod eviction. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--eviction-max-pod-grace-period int32` Maximum allowed grace period (in seconds) to use when terminating pods in response to a soft eviction threshold being met. If negative, defer to pod specified value. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--eviction-minimum-reclaim mapStringString` A set of minimum reclaims (e.g. `imagefs.available=2Gi`) that describes the minimum amount of resource the kubelet will reclaim when performing a pod eviction if that resource is under pressure. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--eviction-pressure-transition-period duration` Duration for which the kubelet has to wait before transitioning out of an eviction pressure condition. (default 5m0s) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--eviction-soft mapStringString` A set of eviction thresholds (e.g. `memory.available<1.5Gi`) that if met over a corresponding grace period would trigger a pod eviction. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--eviction-soft-grace-period mapStringString` A set of eviction grace periods (e.g. `memory.available=1m30s`) that correspond to how long a soft eviction threshold must hold before triggering a pod eviction. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--exit-on-lock-contention` Whether kubelet should exit upon lock-file contention.

`--experimental-allocatable-ignore-eviction` When set to 'true', Hard Eviction Thresholds will be ignored while calculating Node Allocatable. See <https://kubernetes.io/docs/tasks/administer-cluster/reserve-compute-resources/> for more details. [default=false] (DEPRECATED: will be removed in 1.25 or later.)

`--experimental-mounter-path string` [Experimental] Path of mounter binary. Leave empty to use the default mount. (DEPRECATED: will be removed in 1.25 or later. in favor of using CSI.)

`--fail-swap-on` Makes the Kubelet fail to start if swap is enabled on the node. (default true) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--feature-gates` mapStringBool A set of key=value pairs that describe feature gates for alpha/experimental features. Options are:

- `APIListChunking=true|false` (BETA - default=true)
- `APIPriorityAndFairness=true|false` (BETA - default=true)
- `APIResponseCompression=true|false` (BETA - default=true)
- `APISelfSubjectReview=true|false` (ALPHA - default=false)
- `APIServerIdentity=true|false` (BETA - default=true)
- `APIServerTracing=true|false` (ALPHA - default=false)
- `AggregatedDiscoveryEndpoint=true|false` (ALPHA - default=false)
- `AllAlpha=true|false` (ALPHA - default=false)
- `AllBeta=true|false` (BETA - default=false)
- `AnyVolumeDataSource=true|false` (BETA - default=true)
- `AppArmor=true|false` (BETA - default=true)
- `CPUManagerPolicyAlphaOptions=true|false` (ALPHA - default=false)
- `CPUManagerPolicyBetaOptions=true|false` (BETA - default=true)
- `CPUManagerPolicyOptions=true|false` (BETA - default=true)
- `CSIMigrationPortworx=true|false` (BETA - default=false)
- `CSIMigrationRBD=true|false` (ALPHA - default=false)
- `CSINodeExpandSecret=true|false` (ALPHA - default=false)
- `CSIVolumeHealth=true|false` (ALPHA - default=false)
- `ComponentSLIs=true|false` (ALPHA - default=false)
- `ContainerCheckpoint=true|false` (ALPHA - default=false)
- `ContextualLogging=true|false` (ALPHA - default=false)
- `CronJobTimeZone=true|false` (BETA - default=true)
- `CrossNamespaceVolumeDataSource=true|false` (ALPHA - default=false)
- `CustomCPUCFSQuotaPeriod=true|false` (ALPHA - default=false)
- `CustomResourceValidationExpressions=true|false` (BETA - default=true)
- `DisableCloudProviders=true|false` (ALPHA - default=false)
- `DisableKubeletCloudCredentialProviders=true|false` (ALPHA - default=false)
- `DownwardAPIHugePages=true|false` (BETA - default=true)
- `DynamicResourceAllocation=true|false` (ALPHA - default=false)
- `EventedPLEG=true|false` (ALPHA - default=false)
- `ExpandedDNSConfig=true|false` (BETA - default=true)

ExperimentalHostUserNamespaceDefaulting=true|false (BETA - default=false)  
GRPCContainerProbe=true|false (BETA - default=true)  
GracefulNodeShutdown=true|false (BETA - default=true)  
GracefulNodeShutdownBasedOnPodPriority=true|false (BETA - default=true)  
HPAContainerMetrics=true|false (ALPHA - default=false)  
HPAScaleToZero=true|false (ALPHA - default=false)  
HonorPVReclaimPolicy=true|false (ALPHA - default=false)  
IPTablesOwnershipCleanup=true|false (ALPHA - default=false)  
InTreePluginAWSUnregister=true|false (ALPHA - default=false)  
InTreePluginAzureDiskUnregister=true|false (ALPHA - default=false)  
InTreePluginAzureFileUnregister=true|false (ALPHA - default=false)  
InTreePluginGCEUnregister=true|false (ALPHA - default=false)  
InTreePluginOpenStackUnregister=true|false (ALPHA - default=false)  
InTreePluginPortworxUnregister=true|false (ALPHA - default=false)  
InTreePluginRBDUnregister=true|false (ALPHA - default=false)  
InTreePluginvSphereUnregister=true|false (ALPHA - default=false)  
JobMutableNodeSchedulingDirectives=true|false (BETA - default=true)  
JobPodFailurePolicy=true|false (BETA - default=true)  
JobReadyPods=true|false (BETA - default=true)  
KMSv2=true|false (ALPHA - default=false)  
KubeletInUserNamespace=true|false (ALPHA - default=false)  
KubeletPodResources=true|false (BETA - default=true)  
KubeletPodResourcesGetAllocatable=true|false (BETA - default=true)  
KubeletTracing=true|false (ALPHA - default=false)  
LegacyServiceAccountTokenTracking=true|false (ALPHA - default=false)  
LocalStorageCapacityIsolationFSQuotaMonitoring=true|false (ALPHA -  
default=false)  
LogarithmicScaleDown=true|false (BETA - default=true)  
LoggingAlphaOptions=true|false (ALPHA - default=false)  
LoggingBetaOptions=true|false (BETA - default=true)  
MatchLabelKeysInPodTopologySpread=true|false (ALPHA - default=false)  
MaxUnavailableStatefulSet=true|false (ALPHA - default=false)  
MemoryManager=true|false (BETA - default=true)  
MemoryQoS=true|false (ALPHA - default=false)  
MinDomainsInPodTopologySpread=true|false (BETA - default=false)  
MinimizeIPTablesRestore=true|false (ALPHA - default=false)  
MultiCIDRRangeAllocator=true|false (ALPHA - default=false)  
NetworkPolicyStatus=true|false (ALPHA - default=false)

NodeInclusionPolicyInPodTopologySpread=true|false (BETA - default=true)  
NodeOutOfServiceVolumeDetach=true|false (BETA - default=true)  
NodeSwap=true|false (ALPHA - default=false)  
OpenAPIEnums=true|false (BETA - default=true)  
OpenAPIV3=true|false (BETA - default=true)  
PDBUnhealthyPodEvictionPolicy=true|false (ALPHA - default=false)  
PodAndContainerStatsFromCRI=true|false (ALPHA - default=false)  
PodDeletionCost=true|false (BETA - default=true)  
PodDisruptionConditions=true|false (BETA - default=true)  
PodHasNetworkCondition=true|false (ALPHA - default=false)  
PodSchedulingReadiness=true|false (ALPHA - default=false)  
ProbeTerminationGracePeriod=true|false (BETA - default=true)  
ProcMountType=true|false (ALPHA - default=false)  
ProxyTerminatingEndpoints=true|false (BETA - default=true)  
QOSReserved=true|false (ALPHA - default=false)  
ReadWriteOncePod=true|false (ALPHA - default=false)  
RecoverVolumeExpansionFailure=true|false (ALPHA - default=false)  
RemainingItemCount=true|false (BETA - default=true)  
RetroactiveDefaultStorageClass=true|false (BETA - default=true)  
RotateKubeletServerCertificate=true|false (BETA - default=true)  
SELinuxMountReadWriteOncePod=true|false (ALPHA - default=false)  
SeccompDefault=true|false (BETA - default=true)  
ServerSideFieldValidation=true|false (BETA - default=true)  
SizeMemoryBackedVolumes=true|false (BETA - default=true)  
StatefulSetAutoDeletePVC=true|false (ALPHA - default=false)  
StatefulSetStartOrdinal=true|false (ALPHA - default=false)  
StorageVersionAPI=true|false (ALPHA - default=false)  
StorageVersionHash=true|false (BETA - default=true)  
TopologyAwareHints=true|false (BETA - default=true)  
TopologyManager=true|false (BETA - default=true)  
TopologyManagerPolicyAlphaOptions=true|false (ALPHA - default=false)  
TopologyManagerPolicyBetaOptions=true|false (BETA - default=false)  
TopologyManagerPolicyOptions=true|false (ALPHA - default=false)  
UserNamespacesStatelessPodsSupport=true|false (ALPHA - default=false)  
ValidatingAdmissionPolicy=true|false (ALPHA - default=false)  
VolumeCapacityPriority=true|false (ALPHA - default=false)  
WinDSR=true|false (ALPHA - default=false)  
WinOverlay=true|false (BETA - default=true)

WindowsHostNetwork=true|false (ALPHA - default=true) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

--file-check-frequency duration Duration between checking config files for new data (default 20s) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

--global-housekeeping-interval duration Interval between global housekeepings (default 1m0s) (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

--hairpin-mode string How should the kubelet setup hairpin NAT. This allows endpoints of a Service to loadbalance back to themselves if they should try to access their own Service. Valid values are "promiscuous-bridge", "hairpin-veth" and "none". (default "promiscuous-bridge") (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

--healthz-bind-address ip The IP address for the healthz server to serve on (set to '0.0.0.0' or ':::' for listening in all interfaces and IP families) (default 127.0.0.1) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

--healthz-port int32 The port of the localhost healthz endpoint (set to 0 to disable) (default 10248) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

-h, --help help for kubelet

--hostname-override string If non-empty, will use this string as identification instead of the actual hostname. If --cloud-provider is set, the cloud provider determines the name of the node (consult cloud provider documentation to determine if and how the hostname is used).

--housekeeping-interval duration Interval between container housekeepings (default 10s)

`--http-check-frequency duration` Duration between checking http for new data (default 20s) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--image-credential-provider-bin-dir string` The path to the directory where credential provider plugin binaries are located.

`--image-credential-provider-config string` The path to the credential provider plugin config file.

`--image-gc-high-threshold int32` The percent of disk usage after which image garbage collection is always run. Values must be within the range [0, 100], To disable image garbage collection, set to 100. (default 85) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--image-gc-low-threshold int32` The percent of disk usage before which image garbage collection is never run. Lowest disk usage to garbage collect to. Values must be within the range [0, 100] and should not be larger than that of `--image-gc-high-threshold`. (default 80) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--image-service-endpoint string` The endpoint of remote image service. If not specified, it will be the same with `--container-runtime-endpoint` by default. Unix Domain Socket are supported on Linux, while `npipe` and `tcp` endpoints are supported on Windows. Examples: `'unix:///path/to/runtime.sock'`, `'npipe://./pipe/runtime'`

`--iptables-drop-bit int32` The bit of the fwmark space to mark packets for dropping. Must be within the range [0, 31]. (default 15) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--iptables-masquerade-bit int32` The bit of the fwmark space to mark packets for SNAT. Must be within the range [0, 31]. Please match this parameter with corresponding parameter in kube-proxy. (default 14) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--keep-terminated-pod-volumes` Keep terminated pod

volumes mounted to the node after the pod terminates. Can be useful for debugging volume related issues. (DEPRECATED: will be removed in a future version)

`--kernel-memcg-notification` If enabled, the kubelet will integrate with the kernel memcg notification to determine if memory eviction thresholds are crossed rather than polling. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--kube-api-burst int32` Burst to use while talking with kubernetes apiserver. The number must be  $\geq 0$ . If 0 will use `DefaultBurst: 10`. Doesn't cover events and node heartbeat apis which rate limiting is controlled by a different set of flags (default 10) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--kube-api-content-type string` Content type of requests sent to apiserver. (default "application/vnd.kubernetes.protobuf") (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--kube-api-qps int32` QPS to use while talking with kubernetes apiserver. The number must be  $\geq 0$ . If 0 will use `DefaultQPS: 5`. Doesn't cover events and node heartbeat apis which rate limiting is controlled by a different set of flags (default 5) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--kube-reserved mapStringString` A set of `ResourceName=ResourceQuantity` (e.g. `cpu=200m,memory=500Mi,ephemeral-storage=1Gi`) pairs that describe resources reserved for kubernetes system components. Currently only `cpu`, `memory` and `local ephemeral storage` for root file system are supported. See <https://kubernetes.io/docs/concepts/configuration/manage-resources-containers/> for more detail. [default=none] (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--kube-reserved-cgroup string` Absolute name of the top level cgroup that is used to manage kubernetes components for which compute resources were reserved via '`--kube-reserved`' flag. Ex. `"/kube-reserved"`. [default=''] (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See

<https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--kubeconfig` string Path to a kubeconfig file, specifying how to connect to the API server. Providing `--kubeconfig` enables API server mode, omitting `--kubeconfig` enables standalone mode.

`--kubelet-cgroups` string Optional absolute name of cgroups to create and run the Kubelet in. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--local-storage-capacity-isolation` If true, local ephemeral storage isolation is enabled. Otherwise, local storage isolation feature will be disabled (default true) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--lock-file` string <Warning: Alpha feature>  
The path to file for kubelet to use as a lock file.

`--log-cadvisor-usage` Whether to log the usage of the cAdvisor container (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--log-flush-frequency` duration Maximum number of seconds between log flushes (default 5s)

`--log-json-info-buffer-size` quantity [Alpha] In JSON format with split output streams, the info messages can be buffered for a while to increase performance. The default value of zero bytes disables buffering. The size can be specified as number of bytes (512), multiples of 1000 (1K), multiples of 1024 (2Ki), or powers of those (3M, 4G, 5Mi, 6Gi). Enable the `LoggingAlphaOptions` feature gate to use this. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--log-json-split-stream` [Alpha] In JSON format, write error messages to stderr and info messages to stdout. The default is to write a single stream to stdout. Enable the `LoggingAlphaOptions` feature gate to use this. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--logging-format` string Sets the log format.

Permitted formats: "json" (gated by LoggingBetaOptions), "text". (default "text")

(DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--machine-id-file` string Comma-separated list of files to check for machine-id. Use the first one that exists. (default "/etc/machine-id,/var/lib/dbus/machine-id") (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--make-iptables-util-chains` If true, kubelet will ensure iptables utility rules are present on host. (default true) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--manifest-url` string URL for accessing additional Pod specifications to run (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--manifest-url-header` colonSeparatedMultimapStringString Comma-separated list of HTTP headers to use when accessing the url provided to --manifest-url. Multiple headers with the same name will be added in the same order provided. This flag can be repeatedly invoked. For example: `--manifest-url-header 'a:hello,b:again,c:world' --manifest-url-header 'b:beautiful'` (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--master-service-namespace` string The namespace from which the kubernetes master services should be injected into pods (default "default") (DEPRECATED: This flag will be removed in a future version.)

`--max-open-files` int Number of files that can be opened by Kubelet process. (default 1000000) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--max-pods` int32 Number of Pods that can run on this Kubelet. (default 110) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more

information.)

`--maximum-dead-containers` int32 Maximum number of old instances of containers to retain globally. Each container takes up some disk space. To disable, set to a negative number. (default -1) (DEPRECATED: Use `--eviction-hard` or `--eviction-soft` instead. Will be removed in a future version.)

`--maximum-dead-containers-per-container` int32 Maximum number of old instances to retain per container. Each container takes up some disk space. (default 1) (DEPRECATED: Use `--eviction-hard` or `--eviction-soft` instead. Will be removed in a future version.)

`--memory-manager-policy` string Memory Manager policy to use. Possible values: 'None', 'Static'. (default "None") (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--minimum-container-ttl-duration` duration Minimum age for a finished container before it is garbage collected. Examples: '300ms', '10s' or '2h45m' (DEPRECATED: Use `--eviction-hard` or `--eviction-soft` instead. Will be removed in a future version.)

`--minimum-image-ttl-duration` duration Minimum age for an unused image before it is garbage collected. Examples: '300ms', '10s' or '2h45m'. (default 2m0s) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--node-ip` string IP address (or comma-separated dual-stack IP addresses) of the node. If unset, kubelet will use the node's default IPv4 address, if any, or its default IPv6 address if it has no IPv4 addresses. You can pass ':::' to make it prefer the default IPv6 address rather than the default IPv4 address.

`--node-labels` mapStringString <Warning: Alpha feature>  
Labels to add when registering the node in the cluster. Labels must be key=value pairs separated by ','. Labels in the 'kubernetes.io' namespace must begin with an allowed prefix (kubelet.kubernetes.io, node.kubernetes.io) or be in the specifically allowed set (beta.kubernetes.io/arch, beta.kubernetes.io/instance-type, beta.kubernetes.io/os, failure-domain.beta.kubernetes.io/region, failure-domain.beta.kubernetes.io/zone, kubernetes.io/arch, kubernetes.io/hostname, kubernetes.io/os, node.kubernetes.io/instance-type, topology.kubernetes.io/region, topology.kubernetes.io/zone)

`--node-status-max-images` int32 The maximum number of images to report in Node.Status.Images. If -1 is specified, no cap will be applied.

(default 50) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--node-status-update-frequency` duration Specifies how often kubelet posts node status to master. Note: be cautious when changing the constant, it must work with `nodeMonitorGracePeriod` in `nodecontroller`. (default 10s) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--oom-score-adj` int32 The oom-score-adj value for kubelet process. Values must be within the range [-1000, 1000] (default -999) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--pod-cidr` string The CIDR to use for pod IP addresses, only used in standalone mode. In cluster mode, this is obtained from the master. For IPv6, the maximum number of IP's allocated is 65536 (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--pod-infra-container-image` string Specified image will not be pruned by the image garbage collector. CRI implementations have their own configuration to set this image. (default "registry.k8s.io/pause:3.9") (DEPRECATED: will be removed in 1.27. Image garbage collector will get sandbox image information from CRI.)

`--pod-manifest-path` string Path to the directory containing static pod files to run, or the path to a single static pod file. Files starting with dots will be ignored. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--pod-max-pids` int Set the maximum number of processes per pod. If -1, the kubelet defaults to the node allocatable pid capacity. (default -1) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--pods-per-core` int32 Number of Pods per core that can run on this Kubelet. The total number of Pods on this Kubelet cannot exceed `max-pods`, so `max-pods` will be used if this calculation results in a larger number of Pods

allowed on the Kubelet. A value of 0 disables this limit. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--port int32` The port for the Kubelet to serve on. (default 10250) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--protect-kernel-defaults` Default kubelet behaviour for kernel tuning. If set, kubelet errors if any of kernel tunables is different than kubelet defaults. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--provider-id string` Unique identifier for identifying the node in a machine database, i.e cloudprovider (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--qos-reserved mapStringString` <Warning: Alpha feature>  
A set of ResourceName=Percentage (e.g. memory=50%) pairs that describe how pod resource requests are reserved at the QoS level. Currently only memory is supported. Requires the QOSReserved feature gate to be enabled. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--read-only-port int32` The read-only port for the Kubelet to serve on with no authentication/authorization (set to 0 to disable) (default 10255) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--register-node` Register the node with the apiserver. If --kubeconfig is not provided, this flag is irrelevant, as the Kubelet won't have an apiserver to register with. (default true) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's --config flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--register-schedulable` Register the node as schedulable. Won't have any effect if register-node is false. (default true) (DEPRECATED:

will be removed in a future version)

`--register-with-taints []v1.Taint` Register the node with the given list of taints (comma separated "`<key>=<value>:<effect>`"). No-op if `register-node` is false. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--registry-burst int32` Maximum size of a bursty pulls, temporarily allows pulls to burst to this number, while still not exceeding `registry-qps`. Only used if `--registry-qps > 0` (default 10) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--registry-qps int32` If `> 0`, limit registry pull QPS to this value. If `0`, unlimited. (default 5) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--reserved-cpus string` A comma-separated list of CPUs or CPU ranges that are reserved for system and kubernetes usage. This specific list will supersede `cpu` counts in `--system-reserved` and `--kube-reserved`. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--reserved-memory reserved-memory` A comma separated list of memory reservations for NUMA nodes. (e.g. `--reserved-memory 0:memory=1Gi,hugepages-1M=2Gi --reserved-memory 1:memory=2Gi`). The total sum for each memory type should be equal to the sum of `kube-reserved`, `system-reserved` and `eviction-threshold`. See <https://kubernetes.io/docs/tasks/administer-cluster/memory-manager/#reserved-memory-flag> for more details. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--resolv-conf string` Resolver configuration file used as the basis for the container DNS resolution configuration. (default `/etc/resolv.conf`) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--root-dir string` Directory path for managing kubelet files (volume mounts,etc). (default `/var/lib/kubelet`)

`--rotate-certificates` <Warning: Beta feature>  
Auto rotate the kubelet client certificates by requesting new certificates from the kube-apiserver when the certificate expiration approaches. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--rotate-server-certificates` Auto-request and rotate the kubelet serving certificates by requesting new certificates from the kube-apiserver when the certificate expiration approaches. Requires the `RotateKubeletServerCertificate` feature gate to be enabled, and approval of the submitted `CertificateSigningRequest` objects. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--runonce` If true, exit after spawning pods from static pod files or remote urls. Exclusive with `--enable-server` (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--runtime-cgroups` string Optional absolute name of cgroups to create and run the runtime in.

`--runtime-request-timeout` duration Timeout of all runtime requests except long running request - pull, logs, exec and attach. When timeout exceeded, kubelet will cancel the request, throw out an error and retry later. (default 2m0s) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--seccomp-default` RuntimeDefault <Warning: Beta feature>  
Enable the use of RuntimeDefault as the default seccomp profile for all workloads. The `SeccompDefault` feature gate must be enabled to allow this flag, which is disabled per default.

`--serialize-image-pulls` Pull images one at a time. We recommend *not* changing the default value on nodes that run docker daemon with version < 1.9 or an Aufs storage backend. Issue #10959 has more details. (default true) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--storage-driver-buffer-duration` duration Writes in the storage driver will be buffered for this duration, and committed to the non memory backends as a

single transaction (default 1m0s) (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--storage-driver-db` string database name (default "cadvisor") (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--storage-driver-host` string database host:port (default "localhost:8086") (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--storage-driver-password` string database password (default "root") (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--storage-driver-secure` use secure connection with database (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--storage-driver-table` string table name (default "stats") (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--storage-driver-user` string database username (default "root") (DEPRECATED: This is a cadvisor flag that was mistakenly registered with the Kubelet. Due to legacy concerns, it will follow the standard CLI deprecation timeline before being removed.)

`--streaming-connection-idle-timeout` duration Maximum time a streaming connection can be idle before the connection is automatically closed. 0 indicates no timeout. Example: '5m'. Note: All connections to the kubelet server have a maximum duration of 4 hours. (default 4h0m0s) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--sync-frequency` duration Max period between synchronizing running containers and config (default 1m0s) (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more

information.)

`--system-cgroups string` Optional absolute name of cgroups in which to place all non-kernel processes that are not already inside a cgroup under '/'. Empty for no container. Rolling back the flag requires a reboot. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--system-reserved mapStringString` A set of `ResourceName=ResourceQuantity` (e.g. `cpu=200m,memory=500Mi,ephemeral-storage=1Gi`) pairs that describe resources reserved for non-kubernetes components. Currently only `cpu`, `memory` and local ephemeral storage for root file system are supported. See <https://kubernetes.io/docs/concepts/configuration/manage-resources-containers/> for more detail. [default=none] (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--system-reserved-cgroup string` Absolute name of the top level cgroup that is used to manage non-kubernetes components for which compute resources were reserved via '`--system-reserved`' flag. Ex. `"/system-reserved"`. [default=''] (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--tls-cert-file string` File containing x509 Certificate used for serving HTTPS (with intermediate certs, if any, concatenated after server cert). If `--tls-cert-file` and `--tls-private-key-file` are not provided, a self-signed certificate and key are generated for the public address and saved to the directory passed to `--cert-dir`. (DEPRECATED: This parameter should be set via the config file specified by the Kubelet's `--config` flag. See <https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more information.)

`--tls-cipher-suites strings` Comma-separated list of cipher suites for the server. If omitted, the default Go cipher suites will be used.

Preferred values: `TLS_AES_128_GCM_SHA256`, `TLS_AES_256_GCM_SHA384`, `TLS_CHACHA20_POLY1305_SHA256`, `TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA`, `TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256`, `TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA`, `TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384`, `TLS_ECDHE_ECDSA_WITH_CHACHA20_POLY1305`, `TLS_ECDHE_ECDSA_WITH_CHACHA20_POLY1305_SHA256`, `TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA`, `TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256`, `TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA`, `TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384`, `TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305`, `TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305_SHA256`, `TLS_RSA_WITH_AES_128_CBC_SHA`,

TLS\_RSA\_WITH\_AES\_128\_GCM\_SHA256, TLS\_RSA\_WITH\_AES\_256\_CBC\_SHA,  
TLS\_RSA\_WITH\_AES\_256\_GCM\_SHA384.

Insecure values: TLS\_ECDHE\_ECDSA\_WITH\_AES\_128\_CBC\_SHA256,  
TLS\_ECDHE\_ECDSA\_WITH\_RC4\_128\_SHA, TLS\_ECDHE\_RSA\_WITH\_3DES\_EDE\_CBC\_SHA,  
TLS\_ECDHE\_RSA\_WITH\_AES\_128\_CBC\_SHA256, TLS\_ECDHE\_RSA\_WITH\_RC4\_128\_SHA,  
TLS\_RSA\_WITH\_3DES\_EDE\_CBC\_SHA, TLS\_RSA\_WITH\_AES\_128\_CBC\_SHA256, TLS\_RSA\_WITH\_RC4\_128\_SHA.  
(DEPRECATED: This parameter should be set via the config file specified by the Kubelet's  
--config flag. See [https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-  
file/](https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/) for more information.)

--tls-min-version string Minimum TLS version  
supported. Possible values: VersionTLS10, VersionTLS11, VersionTLS12, VersionTLS13  
(DEPRECATED: This parameter should be set via the config file specified by the Kubelet's  
--config flag. See [https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-  
file/](https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/) for more information.)

--tls-private-key-file string File containing x509  
private key matching --tls-cert-file. (DEPRECATED: This parameter should be set via the  
config file specified by the Kubelet's --config flag. See  
<https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/> for more  
information.)

--topology-manager-policy string Topology Manager policy  
to use. Possible values: 'none', 'best-effort', 'restricted', 'single-numa-node'. (default  
"none") (DEPRECATED: This parameter should be set via the config file specified by the  
Kubelet's --config flag. See [https://kubernetes.io/docs/tasks/administer-cluster/kubelet-  
config-file/](https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/) for more information.)

--topology-manager-policy-options mapStringString A set of key=value  
Topology Manager policy options to use, to fine tune their behaviour. If not supplied,  
keep the default behaviour. (DEPRECATED: This parameter should be set via the config file  
specified by the Kubelet's --config flag. See [https://kubernetes.io/docs/tasks/administer-  
cluster/kubelet-config-file/](https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/) for more information.)

--topology-manager-scope string Scope to which topology  
hints applied. Topology Manager collects hints from Hint Providers and applies them to  
defined scope to ensure the pod admission. Possible values: 'container', 'pod'. (default  
"container") (DEPRECATED: This parameter should be set via the config file specified by  
the Kubelet's --config flag. See [https://kubernetes.io/docs/tasks/administer-  
cluster/kubelet-config-file/](https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/) for more information.)

-v, --v Level number for the log level  
verbosity

--version version[=true] Print version information

and quit

```
--vmodule pattern=N,...                               comma-separated list of
pattern=N settings for file-filtered logging (only works for text log format)
--volume-plugin-dir string                             The full path of the
directory in which to search for additional third party volume plugins (default
"/usr/libexec/kubernetes/kubelet-plugins/volume/exec/") (DEPRECATED: This parameter should
be set via the config file specified by the Kubelet's --config flag. See
https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/ for more
information.)
--volume-stats-aggr-period duration                   Specifies interval for
kubelet to calculate and cache the volume disk usage for all pods and volumes. To disable
volume calculations, set to a negative number. (default 1m0s) (DEPRECATED: This parameter
should be set via the config file specified by the Kubelet's --config flag. See
https://kubernetes.io/docs/tasks/administer-cluster/kubelet-config-file/ for more
information.)
```

## containerd and CNI

- [CRI Plugin Config Guide](#)
- [Networking and Network Policy](#)
- [VXLAN RFC7348](#)
- [flannel is a network fabric for containers, designed for Kubernetes](#)

```
[2157448.101788] daemon.notice: May 15 10:14:51 containerd: time="2023-05-
15T10:14:51.446276960Z" level=error msg="failed to load cni during init, please check CRI
plugin status before setting up network for pods" error="cni config load failed: no network
config found in /etc/cni/net.d: cni plugin not initialized: failed to load cni config"
```

It needs configuration in `/etc/cni/net.d`. No Void package provides any.

XBPS package `cni-plugins` contains generic network plugins. Kubelet will require `portmap` plugin enabled at minimum in `/etc/cni/net.d/kube.conflist`:

```
{
  "name": "k8s-pod-network",
  "cniVersion": "0.4.0",
  "plugins": [
    {
```

```
"type": "portmap",
"capabilities": {"portMappings": true},
"externalSetMarkChain": "KUBE-MARK-MASQ"
}
]
}
```

# Kubernetes network proxy

```
exec kube-proxy --master=http://127.0.0.1:6443
```

## Usage: kube-proxy

The Kubernetes network proxy runs on each node. This reflects services as defined in the Kubernetes API on each node and can do simple TCP, UDP, and SCTP stream forwarding or round robin TCP, UDP, and SCTP forwarding across a set of backends.

Service cluster IPs and ports are currently found through Docker-links-compatible environment variables specifying ports opened by the service proxy. There is an optional addon that provides cluster DNS for these cluster IPs. The user must create a service with the apiserver API to configure the proxy.

### Usage:

```
kube-proxy [flags]
```

### Flags:

<code>--bind-address ip</code>	The IP address for the proxy server to serve on (set to '0.0.0.0' for all IPv4 interfaces and ':::' for all IPv6 interfaces). This parameter is ignored if a config file is specified by <code>--config</code> . (default 0.0.0.0)
<code>--bind-address-hard-fail</code>	If true kube-proxy will treat failure to bind to a port as fatal and exit
<code>--boot-id-file string</code>	Comma-separated list of files to check for boot-id. Use the first one that exists. (default "/proc/sys/kernel/random/boot_id")
<code>--cleanup</code>	If true cleanup iptables and ipvs rules and exit.
<code>--cluster-cidr string</code>	The CIDR range of pods in the cluster. When configured, traffic sent to a Service cluster IP from outside this range

will be masqueraded and traffic sent from pods to an external LoadBalancer IP will be directed to the respective cluster IP instead. For dual-stack clusters, a comma-separated list is accepted with at least one CIDR per IP family (IPv4 and IPv6). This parameter is ignored if a config file is specified by `--config`.

<code>--config</code> string	The path to the configuration file.
<code>--config-sync-period</code> duration	How often configuration from the apiserver is refreshed. Must be greater than 0. (default 15m0s)
<code>--contrack-max-per-core</code> int32	Maximum number of NAT connections to track per CPU core (0 to leave the limit as-is and ignore <code>contrack-min</code> ). (default 32768)
<code>--contrack-min</code> int32	Minimum number of contrack entries to allocate, regardless of <code>contrack-max-per-core</code> (set <code>contrack-max-per-core=0</code> to leave the limit as-is). (default 131072)
<code>--contrack-tcp-timeout-close-wait</code> duration	NAT timeout for TCP connections in the <code>CLOSE_WAIT</code> state (default 1h0m0s)
<code>--contrack-tcp-timeout-established</code> duration	Idle timeout for established TCP connections (0 to leave as-is) (default 24h0m0s)
<code>--detect-local-mode</code> LocalMode	Mode to use to detect local traffic. This parameter is ignored if a config file is specified by <code>--config</code> .
<code>--feature-gates</code> mapStringBool	A set of key=value pairs that describe feature gates for alpha/experimental features. Options are:  APIListChunking=true false (BETA - default=true)  APIPriorityAndFairness=true false (BETA - default=true)  APIResponseCompression=true false (BETA - default=true)  APISelfSubjectReview=true false (ALPHA - default=false)  APIServerIdentity=true false (BETA - default=true)  APIServerTracing=true false (ALPHA - default=false)  AggregatedDiscoveryEndpoint=true false (ALPHA - default=false)  AllAlpha=true false (ALPHA - default=false)  AllBeta=true false (BETA - default=false)  AnyVolumeDataSource=true false (BETA

- default=true) AppArmor=true|false (BETA - default=true)

CPUManagerPolicyAlphaOptions=true|false (ALPHA - default=false)

CPUManagerPolicyBetaOptions=true|false (BETA - default=true)

(BETA - default=true) CPUManagerPolicyOptions=true|false

- default=false) CSIMigrationPortworx=true|false (BETA - default=false)

default=false) CSIMigrationRBD=true|false (ALPHA - default=false)

- default=false) CSINodeExpandSecret=true|false (ALPHA - default=false)

default=false) CSIVolumeHealth=true|false (ALPHA - default=false)

default=false) ComponentSLIs=true|false (ALPHA - default=false)

- default=false) ContainerCheckpoint=true|false (ALPHA - default=true)

default=true) CronJobTimeZone=true|false (BETA - default=false)

CrossNamespaceVolumeDataSource=true|false (ALPHA - default=false)

(ALPHA - default=false) CustomCPUCFSQuotaPeriod=true|false

CustomResourceValidationExpressions=true|false (BETA - default=true)

(ALPHA - default=false) DisableCloudProviders=true|false

DisableKubeletCloudCredentialProviders=true|false (ALPHA - default=false)

- default=true) DownwardAPIHugePages=true|false (BETA - default=false)

(ALPHA - default=false) DynamicResourceAllocation=true|false

default=false) EventedPLEG=true|false (ALPHA -

ExpandedDNSConfig=true|false (BETA - default=true)

ExperimentalHostUserNamespaceDefaulting=true|false (BETA - default=false)

GRPCContainerProbe=true|false (BETA - default=true)

GracefulNodeShutdown=true|false (BETA - default=true)

GracefulNodeShutdownBasedOnPodPriority=true|false (BETA - default=true)

HPAContainerMetrics=true|false (ALPHA - default=false)

HPAScaleToZero=true|false (ALPHA - default=false)

HonorPVReclaimPolicy=true|false (ALPHA - default=false)

IPTablesOwnershipCleanup=true|false (ALPHA - default=false)

InTreePluginAWSUnregister=true|false (ALPHA - default=false)

InTreePluginAzureDiskUnregister=true|false (ALPHA - default=false)

InTreePluginAzureFileUnregister=true|false (ALPHA - default=false)

InTreePluginGCEUnregister=true|false (ALPHA - default=false)

InTreePluginOpenStackUnregister=true|false (ALPHA - default=false)

InTreePluginPortworxUnregister=true|false (ALPHA - default=false)

InTreePluginRBDUnregister=true|false (ALPHA - default=false)

InTreePluginvSphereUnregister=true|false (ALPHA - default=false)

JobMutableNodeSchedulingDirectives=true|false (BETA - default=true)

JobPodFailurePolicy=true|false (BETA - default=true)

JobReadyPods=true|false (BETA -

default=true) KMSv2=true|false (ALPHA -  
default=false) KubeletInUserNamespace=true|false  
(ALPHA - default=false) KubeletPodResources=true|false (BETA  
- default=true)  
KubeletPodResourcesGetAllocatable=true|false (BETA - default=true)  
KubeletTracing=true|false (ALPHA -  
default=false)  
LegacyServiceAccountTokenTracking=true|false (ALPHA - default=false)  
LocalStorageCapacityIsolationFSQuotaMonitoring=true|false (ALPHA - default=false)  
LogarithmicScaleDown=true|false (BETA  
- default=true)  
MatchLabelKeysInPodTopologySpread=true|false (ALPHA - default=false)  
MaxUnavailableStatefulSet=true|false  
(ALPHA - default=false) MemoryManager=true|false (BETA -  
default=true) MemoryQoS=true|false (ALPHA -  
default=false)  
MinDomainsInPodTopologySpread=true|false (BETA - default=false)  
MinimizeIPTablesRestore=true|false  
(ALPHA - default=false) MultiCIDRRangeAllocator=true|false  
(ALPHA - default=false) NetworkPolicyStatus=true|false (ALPHA  
- default=false)  
NodeInclusionPolicyInPodTopologySpread=true|false (BETA - default=true)  
NodeOutOfServiceVolumeDetach=true|false (BETA - default=true)  
NodeSwap=true|false (ALPHA -  
default=false)

OpenAPIEnums=true|false (BETA - default=true)

OpenAPIV3=true|false (BETA - default=true)

PDBUnhealthyPodEvictionPolicy=true|false (ALPHA - default=false)

PodAndContainerStatsFromCRI=true|false (ALPHA - default=false)

PodDeletionCost=true|false (BETA - default=true)

PodDisruptionConditions=true|false (BETA - default=true)

PodHasNetworkCondition=true|false (ALPHA - default=false)

PodSchedulingReadiness=true|false (ALPHA - default=false)

ProbeTerminationGracePeriod=true|false (BETA - default=true)

ProcMountType=true|false (ALPHA - default=false)

ProxyTerminatingEndpoints=true|false (BETA - default=true)

QOSReserved=true|false (ALPHA - default=false)

ReadWriteOncePod=true|false (ALPHA - default=false)

RecoverVolumeExpansionFailure=true|false (ALPHA - default=false)

RemainingItemCount=true|false (BETA - default=true)

RetroactiveDefaultStorageClass=true|false (BETA - default=true)

RotateKubeletServerCertificate=true|false (BETA - default=true)

SELinuxMountReadWriteOncePod=true|false (ALPHA - default=false)

SeccompDefault=true|false (BETA - default=true)

ServerSideFieldValidation=true|false

(BETA - default=true) SizeMemoryBackedVolumes=true|false

(BETA - default=true) StatefulSetAutoDeletePVC=true|false

(ALPHA - default=false) StatefulSetStartOrdinal=true|false

(ALPHA - default=false) StorageVersionAPI=true|false (ALPHA - default=false)

StorageVersionHash=true|false (BETA - default=true)

TopologyAwareHints=true|false (BETA - default=true)

TopologyManager=true|false (BETA - default=true)

TopologyManagerPolicyAlphaOptions=true|false (ALPHA - default=false)

TopologyManagerPolicyBetaOptions=true|false (BETA - default=false)

TopologyManagerPolicyOptions=true|false (ALPHA - default=false)

UserNamespacesStatelessPodsSupport=true|false (ALPHA - default=false)

(ALPHA - default=false) ValidatingAdmissionPolicy=true|false

(ALPHA - default=false) VolumeCapacityPriority=true|false

(ALPHA - default=false) WinDSR=true|false (ALPHA - default=false)

WinOverlay=true|false (BETA - default=true)

WindowsHostNetwork=true|false (ALPHA - default=true)

This parameter is ignored if a config file is specified by --config.

--healthz-bind-address ipport The IP address with port for the health check server to serve on (set to '0.0.0.0:10256' for all IPv4 interfaces and ':::10256' for all IPv6 interfaces). Set empty to disable. This parameter is ignored if a config file is specified by --config. (default 0.0.0.0:10256)

<code>-h, --help</code>	help for kube-proxy
<code>--hostname-override string</code>	If non-empty, will use this string as identification instead of the actual hostname.
<code>--iptables-localhost-nodeports</code>	If false Kube-proxy will disable the legacy behavior of allowing NodePort services to be accessed via localhost, This only applies to iptables mode and ipv4. (default true)
<code>--iptables-masquerade-bit int32</code>	If using the pure iptables proxy, the bit of the fwmark space to mark packets requiring SNAT with. Must be within the range [0, 31]. (default 14)
<code>--iptables-min-sync-period duration</code>	The minimum interval of how often the iptables rules can be refreshed as endpoints and services change (e.g. '5s', '1m', '2h22m'). (default 1s)
<code>--iptables-sync-period duration</code>	The maximum interval of how often iptables rules are refreshed (e.g. '5s', '1m', '2h22m'). Must be greater than 0. (default 30s)
<code>--ipvs-exclude-cidrs strings</code>	A comma-separated list of CIDR's which the ipvs proxier should not touch when cleaning up IPVS rules.
<code>--ipvs-min-sync-period duration</code>	The minimum interval of how often the ipvs rules can be refreshed as endpoints and services change (e.g. '5s', '1m', '2h22m').
<code>--ipvs-scheduler string</code>	The ipvs scheduler type when proxy mode is ipvs
<code>--ipvs-strict-arp</code>	Enable strict ARP by setting <code>arp_ignore</code> to 1 and <code>arp_announce</code> to 2
<code>--ipvs-sync-period duration</code>	The maximum interval of how often ipvs rules are refreshed (e.g. '5s', '1m', '2h22m'). Must be greater than 0. (default 30s)
<code>--ipvs-tcp-timeout duration</code>	The timeout for idle IPVS TCP connections, 0 to leave as-is. (e.g. '5s', '1m', '2h22m').
<code>--ipvs-tcpfin-timeout duration</code>	The timeout for IPVS TCP connections after receiving a FIN packet, 0 to leave as-is. (e.g. '5s', '1m', '2h22m').
<code>--ipvs-udp-timeout duration</code>	The timeout for IPVS UDP packets, 0 to leave as-is. (e.g. '5s', '1m', '2h22m').
<code>--kube-api-burst int32</code>	Burst to use while talking with kubernetes apiserver (default 10)
<code>--kube-api-content-type string</code>	Content type of requests sent to apiserver. (default "application/vnd.kubernetes.protobuf")
<code>--kube-api-qps float32</code>	QPS to use while talking with kubernetes apiserver (default 5)
<code>--kubeconfig string</code>	Path to kubeconfig file with

authorization information (the master location can be overridden by the master flag).

`--log-flush-frequency` duration Maximum number of seconds between log flushes (default 5s)

`--machine-id-file` string Comma-separated list of files to check for machine-id. Use the first one that exists. (default `"/etc/machine-id,/var/lib/dbus/machine-id"`)

`--masquerade-all` If using the pure iptables proxy, SNAT all traffic sent via Service cluster IPs (this not commonly needed)

`--master` string The address of the Kubernetes API server (overrides any value in kubeconfig)

`--metrics-bind-address` ipport The IP address with port for the metrics server to serve on (set to `'0.0.0.0:10249'` for all IPv4 interfaces and `'[::]:10249'` for all IPv6 interfaces). Set empty to disable. This parameter is ignored if a config file is specified by `--config`. (default `127.0.0.1:10249`)

`--nodeport-addresses` strings A string slice of values which specify the addresses to use for NodePorts. Values may be valid IP blocks (e.g. `1.2.3.0/24`, `1.2.3.4/32`). The default empty string slice (`[]`) means to use all local addresses. This parameter is ignored if a config file is specified by `--config`.

`--oom-score-adj` int32 The oom-score-adj value for kube-proxy process. Values must be within the range `[-1000, 1000]`. This parameter is ignored if a config file is specified by `--config`. (default `-999`)

`--pod-bridge-interface` string A bridge interface name in the cluster. Kube-proxy considers traffic as local if originating from an interface which matches the value. This argument should be set if `DetectLocalMode` is set to `BridgeInterface`.

`--pod-interface-name-prefix` string An interface prefix in the cluster. Kube-proxy considers traffic as local if originating from interfaces that match the given prefix. This argument should be set if `DetectLocalMode` is set to `InterfaceNamePrefix`.

`--profiling` If true enables profiling via web interface on `/debug/pprof` handler. This parameter is ignored if a config file is specified by `--config`.

`--proxy-mode` ProxyMode Which proxy mode to use: on Linux this can be `'iptables'` (default) or `'ipvs'`. On Windows the only supported value is `'kernel-space'`. This parameter is ignored if a config file is specified by `--config`.

`--proxy-port-range` port-range Range of host ports (`beginPort-endPort`, single port or `beginPort+offset`, inclusive) that may be consumed in order to proxy service traffic. If (unspecified, `0`, or `0-0`) then ports will be randomly chosen.

`--show-hidden-metrics-for-version` string The previous version for which you want to show hidden metrics. Only the previous minor version is meaningful, other values

will not be allowed. The format is <major>.<minor>, e.g.: '1.16'. The purpose of this format is make sure you have the opportunity to notice if the next release hides additional metrics, rather than being surprised when they are permanently removed in the release after that. This parameter is ignored if a config file is specified by --config.

-v, --v Level	number for the log level verbosity
--version version[=true]	Print version information and quit
--vmodule moduleSpec	comma-separated list of pattern=N settings for file-filtered logging (only works for the default text log format)
--write-config-to string	If set, write the default configuration values to this file and exit.

---

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