

# Kubernetes Commands

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Editor  Tab1  +
controlplane $ kubectl describe namespace namespace1
Name:      namespace1
Labels:    kubernetes.io/metadata.name=namespace1
Annotations: <none>
Status:    Active

No resource quota.

No LimitRange resource.
controlplane $ kubectl config view
apiVersion: v1
clusters:
- cluster:
    certificate-authority-data: DATA+OMITTED
    server: https://172.30.1.2:6443
    name: kubernetes
contexts:
- context:
    cluster: kubernetes
    user: kubernetes-admin
    name: kubernetes-admin@kubernetes
current-context: kubernetes-admin@kubernetes
kind: Config
preferences: {}
users:
- name: kubernetes-admin
  user:
    client-certificate-data: DATA+OMITTED
    client-key-data: DATA+OMITTED
controlplane $ kubectl cluster -info
error: unknown command "cluster" for "kubectl"

Did you mean this?
    cluster-info
controlplane $ kubectl cluster-info
Kubernetes control plane is running at https://172.30.1.2:6443
CoreDNS is running at https://172.30.1.2:6443/api/v1/namespaces/kube-system/services/kube-dns:dns/proxy

To further debug and diagnose cluster problems, use 'kubectl cluster-info dump'.
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controlplane $ kubectl api-resources
NAME                                SHORTNAMES  APIVERSION                                NAMESPACED  KIND
bindings                           cs          v1                                         true        Binding
componentstatuses                   cs          v1                                         false       ComponentStatus
configmaps                         cm          v1                                         true        ConfigMap
endpoints                          ep          v1                                         true        Endpoints
events                             ev          v1                                         true        Event
limitranges                        limits      v1                                         true        LimitRange
namespaces                         ns          v1                                         false       Namespace
nodes                             no          v1                                         false       Node
persistentvolumeclaims             pvc         v1                                         true        PersistentVolumeClaim
persistentvolumes                  pv          v1                                         false       PersistentVolume
pods                               po          v1                                         true        Pod
podtemplates                       vt          v1                                         true        PodTemplate
replicationcontrollers              rc          v1                                         true        ReplicationController
resourcequotas                     quota       v1                                         true        ResourceQuota
secrets                           secret      v1                                         true        Secret
serviceaccounts                    sa          v1                                         true        ServiceAccount
services                           svc         v1                                         true        Service
mutatingwebhookconfigurations      admissionregistration.k8s.io/v1         false       MutatingWebhookConfiguration
validatingwebhookconfigurations    validation.k8s.io/v1                     false       ValidatingWebhookConfiguration
customresourcedefinitions          crd,crds   apiextensions.k8s.io/v1                 false       CustomResourceDefinition
apiservices                        apiservice  apiextensions.k8s.io/v1                 false       APIService
controllerrevisions                ctrlr       apps/v1                                  true        ControllerRevision
daemonsets                         ds          apps/v1                                  true        DaemonSet
deployments                        deploy     apps/v1                                  true        Deployment
replicasets                        rs          apps/v1                                  true        ReplicaSet
statefulsets                       sts        apps/v1                                  true        StatefulSet
tokenreviews                       tokenreview authentication.k8s.io/v1                 false       TokenReview
localsubjectaccessreviews           localsubjectaccessreviews authorization.k8s.io/v1                 true        LocalSubjectAccessReview
selfsubjectaccessreviews            selfsubjectaccessreviews authorization.k8s.io/v1                 false       SelfSubjectAccessReview
selfsubjectrulesreviews             selfsubjectrulesreviews authorization.k8s.io/v1                 false       SelfSubjectRulesReview
subjectaccessreviews               subjectaccessreviews authorization.k8s.io/v1                 false       SubjectAccessReview
horizontalpodautoscalers            hpa        autoscaling/v2                           true        HorizontalPodAutoscaler
cronjobs                           cj          batch/v1                                  true        CronJob
jobs                               job         batch/v1                                  true        Job
certificatesigningrequests          csr        certificates.k8s.io/v1                   false       CertificateSigningRequest
leases                             lease       coordination.k8s.io/v1                   true        Lease
bgpconfigurations                  bgpconfigurations crd.projectcalico.org/v1                 false       BGPConfiguration
bgppeers                           bgppeers   crd.projectcalico.org/v1                 false       BGPPeer
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controlplane $ kubectl annotate node minikube
error: at least one annotation update is required
controlplane $ kubectl run nginx --image=nginx --restart=Never
pod/nginx created
controlplane $ kubectl get pods
NAME      READY   STATUS    RESTARTS   AGE
nginx     1/1     Running   0           12s
controlplane $ kubectl describe pods
Name:      nginx
Namespace: default
Priority:   0
Service Account: default
Node:      controlplane/172.30.1.2
Start Time: Tue, 02 May 2023 09:31:50 +0000
Labels:    run=nginx
Annotations: cnf.projectcalico.org/containerID: e530a9e2b80ce6aa27214f262bb233a93cfc0a955a2a1ab4c23ac9b7d6c4dda6
             cnf.projectcalico.org/podIP: 192.168.0.7/32
             cnf.projectcalico.org/podIPs: 192.168.0.7/32
Status:    Running
IP:        192.168.0.7
IPs:
  IP: 192.168.0.7
Containers:
  nginx:
    Container ID:   containerd://618ca0c1e6b153094cae53bdd31b73a884d1d54c195b35fa943e2182d4cad07b
    Image:          nginx
    Image ID:       docker.io/library/nginx@sha256:63b44e8ddb83d5dd8020327c1f40436e37a6fffd3ef2498a6204df23be6e7e94
    Port:           <none>
    Host Port:      <none>
    State:          Running
      Started:      Tue, 02 May 2023 09:31:57 +0000
    Ready:          True
    Restart Count:  0
    Environment:    <none>
    Mounts:
      /var/run/secrets/kubernetes.io/serviceaccount from kube-api-access-kcvl4 (ro)
Conditions:
  Type            Status
  Initialized      True
  Ready            True

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  Initialized      True
  Ready            True
  ContainersReady  True
  PodScheduled     True
Volumes:
  kube-api-access-kcvl4:
    Type:          Projected (a volume that contains injected data from multiple sources)
    TokenExpirationSeconds: 3607
    ConfigMapName:   kube-root-ca.crt
    ConfigMapOptional: <nil>
    DownwardAPI:    true
QoS Class:       BestEffort
Node-Selectors:  <none>
Tolerations:     node.kubernetes.io/not-ready:NoExecute op=Exists for 300s
                 node.kubernetes.io/unreachable:NoExecute op=Exists for 300s
Events:
  Type    Reason      Age   From          Message
  ----    -
  Normal  Scheduled   24s   default-scheduler  Successfully assigned default/nginx to controlplane
  Normal  Pulling     24s   kubelet        Pulling image "nginx"
  Normal  Pulled      18s   kubelet        Successfully pulled image "nginx" in 5.985272728s (5.985278922s including waiting)
  Normal  Created     18s   kubelet        Created container nginx
  Normal  Started     17s   kubelet        Started container nginx
controlplane $ kubectl get services
NAME      TYPE        CLUSTER-IP   EXTERNAL-IP   PORT(S)    AGE
kubernetes ClusterIP  10.96.0.1     <none>        443/TCP      20d
controlplane $ kubectl describe services
Name:      kubernetes
Namespace: default
Labels:    component=apiserver
           provider=kubernetes
Annotations: <none>
Selector:  <none>
Type:      ClusterIP
IP Family Policy: SingleStack
IP Families: IPv4
IP:        10.96.0.1
IPs:       10.96.0.1
Port:      https 443/TCP
TargetPort: 6443/TCP

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Port: https 443/TCP
TargetPort: 6443/TCP
Endpoints: 172.30.1.2:6443
Session Affinity: None
Events: <none>
controlplane $ kubectl get serviceaccounts
NAME      SECRETS  AGE
default   0        20d
controlplane $ kubectl describe serviceaccounts
Name:      default
Namespace: default
Labels:     <none>
Annotations: <none>
Image pull secrets: <none>
Mountable secrets: <none>
Tokens:     <none>
Events:     <none>
controlplane $ kubectl get pods -o wide
NAME      READY  STATUS   RESTARTS  AGE  IP            NODE           NOMINATED NODE  READINESS GATES
nginx     1/1    Running  0          99s   192.168.0.7   controlplane   <none>          <none>
controlplane $ kubectl get namespaces
NAME                STATUS   AGE
default             Active   20d
kube-node-lease     Active   20d
kube-public         Active   20d
kube-system         Active   20d
local-path-storage  Active   20d
namespace1         Active   13m
controlplane $ kubectl get nodes
NAME                STATUS   ROLES    AGE   VERSION
controlplane        Ready    control-plane  20d   v1.26.1
controlplane $ kubectl get namespaces --show-labels
NAME                STATUS   AGE   LABELS
default             Active   20d   kubernetes.io/metadata.name=default
kube-node-lease     Active   20d   kubernetes.io/metadata.name=kube-node-lease
kube-public         Active   20d   kubernetes.io/metadata.name=kube-public
kube-system         Active   20d   kubernetes.io/metadata.name=kube-system
local-path-storage  Active   20d   kubernetes.io/metadata.name=local-path-storage
namespace1         Active   14m   kubernetes.io/metadata.name=namespace1

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