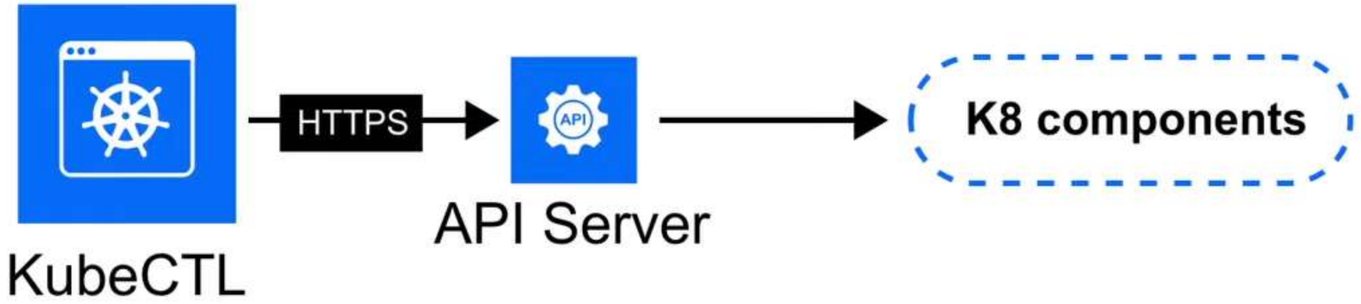
KubeCTL

KubeCTL is a command line tool lets you control Kubernetes clusters



kubectl looks for a file named config in the $HOME/.kube directory

KubeCTL has the following syntax:

- kubectl **[COMMAND] [TYPE] [NAME] [FLAGS]**

KubeCTL – Command

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kubectl **[COMMAND]** [TYPE] [NAME] [FLAGS]

COMMAND: The **operation** you want to perform

Available commands:

annotation - key value data that can be applied to resources

apply - Executes manifest files to create, modify K8 resources

auth - Inspect if you are authorized to perform an action

autoscale - Create an autoscaler that automatically chooses and sets the number of pods that run in a kubernetes cluster

cp - Copy files and directories to and from containers

create — Create specific K8 cluster-level resources: ConfigMap, Deployment, Job, Namespace, Role, Secret

delete — Delete resources filenames, stdin, resources and names, or by resources and label select

describe — Show details of a specific resource or group of resources

diff — diffs the online configuration with local config

KubeCTL – Command

- **edit** — Edit a resource from the default editor. Edit a deployed manifest file and apply the changes.
- **exec** — Execute a command within a container
- **expose** — Expose as resource as Kubernetes service
- **get** — generally used to get the status of an existing Kubernetes resource
- **kustomize** — Print a set of API resources generated from instructions in a kustomization.yaml file
- **label** — update labels on a resource
- **logs** — print the logs for a container in a pod or specific resource
- **patch** — Update fields of a resource using strategic merge patch, a JSON merge patch, or a JSON patch
- **port-forward** — Forward one or more local ports to a pod.
- **proxy** — Creates a proxy server between localhost and the Kubernetes API Server
- **run** — Create and run a container image in a pod
- **scale** — Set a new size for a Deployment, ReplicaSet, Replication Controller, or StatefulSet

KubeCTL – Type

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kubectl [COMMAND] [TYPE] [NAME] [FLAGS]

TYPE: The **resource type** you want to command

```
kubectl describe deployments
```

Resource types can have abbreviations:

- deployments → deploy
- persistentVolumes → pv
- pods → po

```
kubectl describe deploy
```

There are over **50+ resource types**

- Bindings
- Componentstatuses (cs)
- Configmaps (cm)
- Endpoints (ep)
- Events (ev)
- Limitranges (limits)
- Namespaces (ns)
- Nodes (no)
- Persistentvolumeclaims (pvc)
- Persistentvolumes (pv)
- Pods (po)
- Podtemplates
- Replicationcontrollers (rc)
- Resourcequotas (quota)
- Secrets
- Serviceaccounts (sa)
- Services (svc)
- Mutatingwebhookconfigurations
- Validatingwebhookconfigurations
- Customresourcedefinitions (crd)
- Apiservices
- Controllerrevisions
- Daemonsets (ds)
- Deployments (deploy)
- Replicasets (rs)
- Statefulsets (sts)
- Tokenreviews
- Localsubjectaccessreviews
- Selfsubjectaccessreviews
- Selfsubjectrulesreviews
- Subjectaccessreviews
- Horizontalpodautoscalers
- Cronjobs (cj)
- Jobs
- Certificatesigningrequests (csr)
- Leases
- Endpointslices
- Events (ev)
- Ingresses (ing)
- Flowschemas
- Prioritylevelconfigurations
- Ingressclasses
- Networkpolicies (netpol)
- Runtimeclasses
- Poddisruptionbudgets (pdb)
- Podsecuritypolicies (psp)
- Clusterrolebindings
- Clusterroles
- Rolebindings
- Roles
- Priorityclasses (pc)
- Csidrivers
- Csinodes
- Storageclasses (sc)
- volumeattachments

KubeCTL – Name

kubectl [COMMAND] [TYPE] **[NAME]** [FLAGS]

NAME: Specifies the **name of the resource**

```
kubectl get pod example-pod1 example-pod2
```

Names are case-sensitive

If the name is **omitted**, details for all resources are displayed

```
kubectl get pods
```

KubeCTL – Flags

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kubectl [COMMAND] [TYPE] [NAME] **[FLAGS]**

FLAGS: Specifies optional flags

```
kubectl create role my-role --verb=get,list,watch --resource=rs.extensions
```

- Flags generally start with two hyphens. eg. –server
- Sometimes flags have abbreviations with single hypen eg. -s
- Available flags will vary based on command
- Sometimes flags can be assigned values or do not expect a value.

KubeCTL Documentation

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KubeCTL documentation shows example of how to use all the KubeCTL commands.

https://kubernetes.io/docs/reference/generated/kubectl/kubectl-commands