

# Kubernetes Cheat Sheet

## Installation

Install the `kubectl` command line tool to interact with the Kubernetes API:

<https://kubernetes.io/docs/tasks/tools/#kubectl>

Enable autocompletion in bash:

```
composer completion bash | sudo tee /etc/bash_completion.d/kubectl
```

## Global flags

Flag	Description
<code>--namespace &lt;namespace&gt;</code>	The name of the namespace to use
<code>--context &lt;context&gt;</code>	The name of the context to use
<code>--help</code>	Show information about a given command

## Context and configuration

Command	Description
<code>kubectl config get-contexts</code>	List all contexts
<code>kubectl config current-context</code>	Display the current context
<code>kubectl config use-context &lt;context&gt;</code>	Switch to another context
<code>kubectl config delete-context &lt;context&gt;</code>	Delete the specified context from the kubeconfig

## Display resources

Command	Description
<code>kubectl get &lt;resource&gt;</code>	List all resources of this type in the current namespace
<code>kubectl get &lt;resource&gt; -o wide</code>	List all resources with more details
<code>kubectl get &lt;resource&gt; -A</code>	List all resources of this type in all namespaces
<code>kubectl get &lt;resource&gt; &lt;name&gt;</code>	List a particular resource
<code>kubectl get &lt;resource&gt; &lt;name&gt; -o yaml</code>	Print a particular resource in YAML format
<code>kubectl get &lt;resource&gt; &lt;name&gt; -l &lt;key1&gt;=&lt;value1&gt;</code>	List resources where label <key1> contains <value1>
<code>kubectl describe &lt;resource&gt;</code>	Show detailed information about a resource

## Apply configuration manifests

Command	Description
<code>kubectl apply -f &lt;file&gt;</code>	Apply a manifest from a file
<code>kubectl apply -f &lt;dir&gt;</code>	Apply all manifests in a directory
<code>kubectl apply -k &lt;dir&gt;</code>	Apply resources from a kustomize directory

## Create resources manually

Command	Description
<code>kubectl run &lt;name&gt; --image=&lt;image&gt;</code>	Start a pod
<code>kubectl create deployment &lt;name&gt; --image=&lt;image&gt;</code>	Create a deployment
<code>kubectl expose pod &lt;pod&gt; --port=&lt;port&gt;</code>	Create a service for an existing pod
<code>kubectl expose deployment &lt;name&gt; --port=&lt;port&gt;</code>	Create a service for an existing deployment
<code>kubectl create ingress &lt;name&gt; --rule=&lt;host/path=svc:port&gt;</code>	Create an ingress that routes traffic to a service
<code>kubectl create job &lt;name&gt; --image=&lt;image&gt;</code>	Create a job
<code>kubectl create job &lt;name&gt; --from=cronjob/&lt;name&gt;</code>	Create a job from a cronjob
<code>kubectl create cronjob &lt;name&gt; --image=&lt;image&gt; --schedule=&lt;schedule&gt;</code>	Create a cronjob, using a schedule in Cron format
<code>kubectl create secret generic &lt;name&gt; --from-literal=&lt;key&gt;=&lt;value&gt;</code>	Create a secret containing <key> and <value>
<code>kubectl create secret docker-registry &lt;name&gt; --docker-server=&lt;server&gt; --docker-username=&lt;username&gt; --docker-password=&lt;password&gt;</code>	Create a secret for a Docker registry

## Generate YAML configuration manifests

Command	Description
<code>kubectl create deployment &lt;name&gt; --image=&lt;image&gt; --dry-run=client -o yaml</code>	Generate a deployment manifest
<code>kubectl expose deployment &lt;name&gt; --port=&lt;port&gt; --dry-run=client -o yaml</code>	Generate a service manifest for a deployment

## Edit resources

Command	Description
<code>kubectl edit &lt;resource&gt; &lt;name&gt;</code>	Edit a resource in a text editor
<code>kubectl set image &lt;resource&gt; &lt;name&gt; &lt;container&gt;=&lt;image&gt;</code>	Update the image of a container in a pod

## Set labels and annotations

Command	Description
<code>kubectl label &lt;resource&gt; &lt;name&gt; &lt;key&gt;=&lt;value&gt;</code>	Add a label to a resource
<code>kubectl annotate &lt;resource&gt; &lt;name&gt; &lt;key&gt;=&lt;value&gt;</code>	Add an annotation to a resource

## Delete resources

Command	Description
<code>kubectl delete &lt;resource&gt; &lt;name&gt;</code>	Delete a particular resource
<code>kubectl delete &lt;resource&gt; --all</code>	Delete all resources of a particular type in the current namespace
<code>kubectl delete -f &lt;file&gt;</code>	Delete a resource from a file

## Manage deployments

Command	Description
<code>kubectl rollout status deployment &lt;name&gt;</code>	Show the status of a deployment rollout
<code>kubectl rollout history deployment &lt;name&gt;</code>	View the rollout history of a deployment
<code>kubectl rollout undo deployment &lt;name&gt;</code>	Undo a previous rollout deployment
<code>kubectl rollout restart deployment &lt;name&gt;</code>	Restart a deployment
<code>kubectl scale deployment &lt;name&gt; --replicas=&lt;n&gt;</code>	Scale a deployment to <n> replicas
<code>kubectl autoscale deployment &lt;name&gt; --min=&lt;min&gt; --max=&lt;max&gt;</code>	Autoscale a deployment between <n> and <n> replicas

## Execute commands

Command	Description
<code>kubectl exec &lt;pod&gt; -- &lt;command&gt;</code>	Execute a command in a running pod
<code>kubectl exec -it &lt;pod&gt; -- sh</code>	Open a shell in a running pod

## View logs

Command	Description
<code>kubectl logs &lt;pod&gt;</code>	Print the logs for a pod
<code>kubectl logs -f &lt;pod&gt;</code>	Print the logs for a pod and keep streaming

## Resource usage

Command	Description
<code>kubectl top node</code>	Show resource (CPU/memory) usage of nodes
<code>kubectl top pod</code>	Show resource (CPU/memory) usage of pods

## Other commands

Command	Description
<code>kubectl version</code>	Show the version of the client and server
<code>kubectl api-resources</code>	Print the supported API resources on the server