# kubectl Kubernetes CLI

## CONCEPTS

Check the context and namespace before changing anything: the same command hits whichever cluster is current.

**Cluster** context
**Namespace** -n
**Deployment** desired state
**Pod** containers

Most commands accept TYPE NAME or TYPE/NAME, and -l <selector> to act on many objects. Short names: po, svc, deploy, ns, cm.

## CONTEXT

`kubectl config get-contexts`
List contexts

`kubectl config current-context`
Show active context

`kubectl config use-context <ctx>`
Switch context

`kubectl config set-context --current --namespace=<ns>`
Set default namespace

`kubectl config view`
Show merged kubeconfig

`kubectl cluster-info`
Show API server address

`kubectl version`
Client and server versions

`kubectl api-resources`
List resource types

`kubectl explain <resource>.spec`
Show field docs

`kubectl get pods -A`
All namespaces (-A)

## CREATE & APPLY

`kubectl apply -f <file>`
Create or update from file

`kubectl apply -f <dir>`
Apply every manifest in a dir

`kubectl create deployment <name> --image=<img>`
New deployment

## CREATE & APPLY (cont.)

`kubectl run <name> --image=<img>`
Start a single pod

`kubectl run <name> --image=<img> --dry-run=client -o yaml`
Generate YAML only

`kubectl expose deployment <name> --port=<port>`
Create a service

## INSPECT

`kubectl get pods`
List pods

`kubectl get pods -o wide`
Add node and IP

`kubectl get pods -n <ns>`
List in a namespace

`kubectl get all`
Common resources in namespace

`kubectl get <type> <name> -o yaml`
Full object as YAML

`kubectl describe <type> <name>`
Details and recent events

`kubectl get pods -l <key>=<value>`
Filter by label

`kubectl get pods -w`
Watch for changes

`kubectl get events --sort-by=.metadata.creationTimestamp`
Events by time

`kubectl get <type> <name> -o jsonpath='{.<path>}'`
Extract one field

## PODS & DEBUG

`kubectl logs <pod>`
Show pod logs

`kubectl logs -f <pod>`
Follow logs

`kubectl logs <pod> -c <container>`
Logs of one container

`kubectl logs <pod> --previous`
Logs of crashed container

## PODS & DEBUG (cont.)

`kubectl exec -it <pod> -- sh`
Interactive shell

`kubectl exec <pod> -- <cmd>`
Run one command

`kubectl port-forward <pod> <local>:<remote>`
Forward a local port

`kubectl port-forward svc/<name> <local>:<port>`
Forward to a service

`kubectl cp <pod>:<path> <local>`
Copy file from pod

`kubectl top pod`
Pod CPU and memory

## UPDATE & ROLLOUT

`kubectl set image deployment/<name> <container>=<img>`
Change an image

`kubectl rollout status deployment/<name>`
Wait for rollout

`kubectl rollout undo deployment/<name>`
Roll back

`kubectl rollout restart deployment/<name>`
Restart all pods

`kubectl scale deployment/<name> --replicas=<n>`
Set replica count

`kubectl edit <type> <name>`
Edit in $EDITOR

`kubectl label <type> <name> <key>=<value>`
Add or change a label

## DELETE

`kubectl delete -f <file>`
Delete objects from file

`kubectl delete pod <pod>`
Delete a pod

`kubectl delete pods -l <key>=<value>`
Delete by label

## NODES

`kubectl get nodes`
List nodes