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