

Kubernetes Commands & Troubleshooting Cheat Sheet

Cluster & Context

Command	What it Does	Troubleshooting Tip
kubectl config get-contexts	List all kubeconfig contexts	Check you're in the right cluster
kubectl config use-context <ctx>	Switch context	If Unauthorized → check kubeconfig creds
kubectl cluster-info	Show API server info	If hangs → kubeconfig invalid
kubectl version --short	Show versions	Mismatched versions cause issues

Pods

Command	What it Does	Troubleshooting Tip
kubectl get pods -A	List pods all namespaces	Look for CrashLoopBackOff
kubectl describe pod <pod>	Detailed pod info	Check Events at bottom
kubectl logs <pod>	Container logs	Use -c if multiple containers
kubectl exec -it <pod> -- /bin/sh	Shell inside pod	Blocked? Check RBAC/PSP

Services & Networking

Command	What it Does	Troubleshooting Tip
kubectl get svc -A	List services	Ensure correct ClusterIP/LoadBalancer
kubectl describe svc <svc>	Inspect service	Endpoints empty = selector mismatch
kubectl get endpoints <svc>	Shows backing pods	No endpoints = service mismatch

<code>kubectl exec -it <pod> -- curl <svc>:<port></code>	Test service	Debug DNS/service issues
----------------------------------------------------------------------------	--------------	--------------------------

Deployments & ReplicaSets

Command	What it Does	Troubleshooting Tip
<code>kubectl get deploy -A</code>	List deployments	Check READY vs DESIRED
<code>kubectl rollout status deploy <deploy></code>	Check rollout	Use --timeout to avoid hang
<code>kubectl rollout undo deploy <deploy></code>	Rollback deployment	Quick fix for bad deploy
<code>kubectl describe rs <rs></code>	Inspect ReplicaSet	Check scheduling failures

Nodes

Command	What it Does	Troubleshooting Tip
<code>kubectl get nodes -o wide</code>	List nodes	Look for NotReady/taints
<code>kubectl describe node <node></code>	Node events	Check DiskPressure/MemoryPressure
<code>kubectl top node</code>	CPU/memory usage	Needs metrics-server
<code>kubectl drain <node> --ignore-daemonsets</code>	Evict workloads	Pods stuck? Check PDBs

RBAC & Access

Command	What it Does	Troubleshooting Tip
<code>kubectl auth can-i <verb> <resource></code>	Check permissions	e.g., create pods
<code>kubectl describe clusterrole <role></code>	Inspect RBAC role	Check API groups/resources
<code>kubectl describe sa <sa> -n <ns></code>	Check ServiceAccount	Misconfigured SA breaks pods

Common Crash Issues

Command	What it Does	Troubleshooting Tip
CrashLoopBackOff	kubectl logs <pod>	App bug or bad env vars
Pending Pod	kubectl describe pod <pod>	Node selector/taint mismatch
ImagePullBackOff	kubectl describe pod <pod>	Bad image name/tag or creds
Service not reachable	kubectl get endpoints <svc>	Selector mismatch
Node NotReady	kubectl describe node <node>	Kubelet down or resource issues