

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

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

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

Nodes

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

RBAC & Access

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

Common Crash Issues

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