100 Kubernetes Errors

What Breaks, Why It Breaks, and How to Fix it

	Kubernetes Error	Cause	Fix
01	❌ CrashLoopBackOff	App crash or incorrect command	Check logs, fix entrypoint or config
02	❌ ImagePullBackOff	Wrong image name or secret issue	Verify image name, registry creds
03	❌ ErrImagePull	Image doesn't exist or inaccessible	Correct the image URL or credentials
04	❌ CreateContainerConfigError	Invalid env or config	Check ConfigMap/Secret references
05	❌ CreateContainerError	Issue during container creation	Check image health, volume mounts
06	❌ RunContainerError	App failed to run post-creation	Inspect logs, entrypoints, permissions
07	❌ OOMKilled	Container exceeded memory limit	Tune limits, optimize memory usage
08	❌ Back-off restarting failed container	Container repeatedly fails	Check logs, increase backoff, fix bug
09	❌ NodeNotReady	Node down or unreachable	Restart node, check kubelet, infra issues
10	❌ PodUnschedulable	Insufficient resources or constraints	Adjust node pools, affinities, quotas

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11	❌ **NodeAffinity conflict**	Pod's affinity can't be met	Reconfigure node labels or affinities
12	❌ **PVC Pending**	No matching PV available	Provision PV manually or enable dynamic provisioning
13	❌ **VolumeMountError**	Mount path or volume issue	Check access modes, volume specs
14	❌ **DeadlineExceeded**	Job exceeded deadline	Increase deadline or optimize logic
15	❌ **InvalidImageName**	Malformed image reference	Use valid, versioned image names
16	❌ **Secret not found**	Missing secret reference	Create the required secret
17	❌ **ConfigMap not found**	Missing config map reference	Create or correct reference
18	❌ **NodeSelector mismatch**	No matching node for selector	Adjust labels/selectors
19	❌ **Invalid container port**	Declared port not exposed	Match container and service port
20	❌ **FailedScheduling**	Pod can't find suitable node	Check taints, resources, affinity
21	❌ **Liveness probe failed**	Health check endpoint fails	Fix probe or app logic
22	❌ **Readiness probe failed**	Pod not ready to serve	Fix app or probe definition
23	❌ **Service not reachable**	Incorrect selector or port	Fix service spec or target labels
24	❌ **DNS resolution failed**	CoreDNS crash or config issue	Restart CoreDNS, fix DNS config
25	❌ **LoadBalancer pending**	Cloud LB not provisioned	Check cloud integration and permissions

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26	❌ RBAC access denied	Insufficient user permission	Add proper roles via RoleBinding
27	❌ Crash in InitContainer	Init script failed	Fix init container logic or script
28	❌ ImagePullSecrets error	Invalid registry secret	Fix or re-add secret
29	❌ Invalid PVC access mode	Mismatch with PV mode	Match ReadWriteOnce vs Many
30	❌ Unbound PersistentVolumeClaim	PVC can't bind to PV	Provision matching PV
31	❌ Pod evicted	Node pressure (memory, disk)	Scale nodes, tune resource limits
32	❌ Unauthorized error	Token or cert expired	Renew credentials
33	❌ Admission webhook denied pod	Policy validation failed	Fix policy or admission config
34	❌ PodSecurityPolicy violation	Spec disallowed by PSP	Adjust policy or pod spec
35	❌ Pod quota exceeded	Namespace resource quota hit	Raise limits or clean up pods
36	❌ API throttling	Too many API requests	Use client-side throttling or retries
37	❌ Invalid label format	Label uses invalid characters	Fix label to match regex
38	❌ Service endpoints not populated	No matching pods	Check pod selectors
39	❌ Helm release failed	Chart or values error	Validate templates, use dry-run
40	❌ Helm rollback failed	Previous state corrupt	Manually delete or fix resources

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41	❌ Node disk full	Pod logs or volumes overfill node	Use log rotation, cleanup jobs
42	❌ Invalid YAML	Syntax error in manifest	Lint and validate YAML
43	❌ Container exits immediately	No running command	Use proper entrypoint or CMD
44	❌ Job doesn't complete	Hangs or fails silently	Set backoffLimit, add alerting
45	❌ DaemonSet pods not scheduled	Taints not tolerated	Add tolerations to spec
46	❌ Pod can't mount ConfigMap	Volume not defined correctly	Fix volumeMounts and volumes
47	❌ Invalid node port range	Outside cluster port range	Use ports within 30000â€"32767
48	❌ Pod terminated with exit code 137	OOM or SIGKILL	Check logs, increase memory
49	❌ Job history limits too high	Jobs clog API server	Set history limits
50	❌ Pod never terminates	Container runs forever	Add timeout or readiness check
51	❌ Invalid annotation key	Violates key naming rules	Fix annotation format
52	❌ Deployment rollout stuck	Unavailable replicas > threshold	Check pod health and quotas
53	❌ Service without selector	No endpoints generated	Manually define endpoints or add selector
54	❌ Container can't write logs	No log path or permissions	Set proper path or mount volume
55	❌ HorizontalPodAutoscaler not scaling	Missing metrics-server	Install metrics-server

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56	❌ Deployment loops without change	Incorrect label match or template hash	Use proper selectors
57	❌ Pod IP not reachable	CNI plugin issue	Check CNI logs and restart plugin
58	❌ ClusterIP service unreachable	IPTables issue	Restart kube-proxy or check rules
59	❌ Controller-manager crashloop	Certs or leader election config	Check config and logs
60	❌ Too many open files	File descriptor limit hit	Increase ulimit on container
61	❌ Pod fails DNS resolution inside cluster	kube-dns not resolving svc.cluster.local	Restart CoreDNS and validate config
62	❌ HPA flapping up/down	Thresholds too tight	Add cool-down and buffer ranges
63	❌ Node cordoned unexpectedly	Drift or manual action	Uncordon or automate via scripts
64	❌ Evicted due to node reboot	No pod disruption budget	Add PDB to critical workloads
65	❌ Service has no endpoints	Pods not matching selectors	Fix labels or selectors
66	❌ Service has wrong targetPort	Service port doesn't match container	Correct service spec
67	❌ Pod fails due to image tag `latest`	Old image cached	Use versioned tags
68	❌ Kubelet not registering node	Firewall or DNS block	Open ports, validate DNS
69	❌ API server not reachable	Network or cert issue	Check control plane and network
70	❌ Pod takes too long to start	Init delay, heavy image	Optimize image size and probes

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71	❌ Pod fails due to PodToleratesNodeTaints	Taints on the node not tolerated by pod	Add appropriate tolerations to pod spec
72	❌ failed to pull image but image exists	Image pull secrets misconfigured	Verify and fix imagePullSecrets
73	❌ Ingress returns 404 despite healthy service	Wrong path or missing backend rule	Check Ingress path config and backend mapping
74	❌ Persistent Volume stuck in Terminating	Finalizer blocks deletion	Manually remove finalizer or force delete
75	❌ Readiness probe fails but container healthy	Probe path or port incorrect	Correct the readiness probe URL/port
76	❌ Pods stuck due to affinity rules	Overly strict affinity/anti-affinity	Loosen affinity rules or add tolerations
77	❌ Node pressure eviction	DiskPressure or MemoryPressure status	Clean up disk, scale node pool, or adjust limits
78	❌ No routes found in Calico networking	BGP misconfigured or broken	Restart Calico nodes or reset BGP config
79	❌ rpc error: code = Unknown on API calls	gRPC call from controller failed unexpectedly	Restart API-dependent controllers
80	❌ Failed attaching volume: Multi-Attach error	Volume used by another pod	Ensure volume supports ReadWriteMany or detach
81	❌ sysctl not allowed	Pod uses unsupported sysctls	Add allowed sysctls to kubelet config
82	❌ hostname unknown errors in containers	Missing DNS resolution or CoreDNS crash	Restart CoreDNS, validate resolv.conf
83	❌ CrashLoopBackOff due to failed initContainer	Init container failed, main never starts	Fix or remove the initContainer logic
84	❌ volumeMount fails due to read-only mode	Mount declared readOnly but write attempted	Set readOnly: false if writes are needed
85	❌ NetworkPolicy blocks egress to internet	Deny-all policy in place	Allow required CIDRs or specific FQDNs

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86	❌ Secret not found during deploy	Namespace mismatch or race condition	Ensure secret exists in correct namespace
87	❌ ConfigMap is immutable error	Trying to update immutable ConfigMap	Delete and recreate the ConfigMap
88	❌ Pod stuck Pending due to NoVolumeZoneConflict	PVC requested a zone not available on node	Use zonal PVCs or schedule to matching zones
89	❌ API server connection refused	Broken kubeconfig or API not running	Verify kubeconfig context and cluster status
90	❌ Sidecar container causes pod to never terminate	Main container exits, sidecar runs forever	Use sidecar lifecycle hooks to terminate
91	❌ HPA not scaling pods	Metrics server not reporting	Install/verify metrics-server
92	❌ kubectl get hangs indefinitely	API server overloaded or DNS misconfig	Restart CoreDNS or check master node health
93	❌ Logs not available after pod crash	Ephemeral storage full or log rotation	Use centralized logging or persistent logs
94	❌ cert expired on Kubelet or API server	Cluster certificate not rotated	Renew via kubeadm certs renew or automation
95	❌ Webhook validation timeout	Webhook backend slow or misconfigured	Fix webhook service or increase timeout
96	❌ PodDisruptionBudget blocks rollout	Too few pods allowed to disrupt	Adjust PDB thresholds during rollout
97	❌ Pod stuck due to unresolved hostPath mount	Host path missing on node	Ensure host path exists or use PV instead
98	❌ containerCreating forever with sandbox issue	Containerd or Docker sandbox stuck	Restart container runtime or node
99	❌ Kube-proxy fails on startup	IPTables rules corrupted	Flush and restore iptables or reboot node
100	❌ QoS mismatch causes unexpected eviction	Wrong limits/requests combo	Use guaranteed/burstable classes intentionally

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