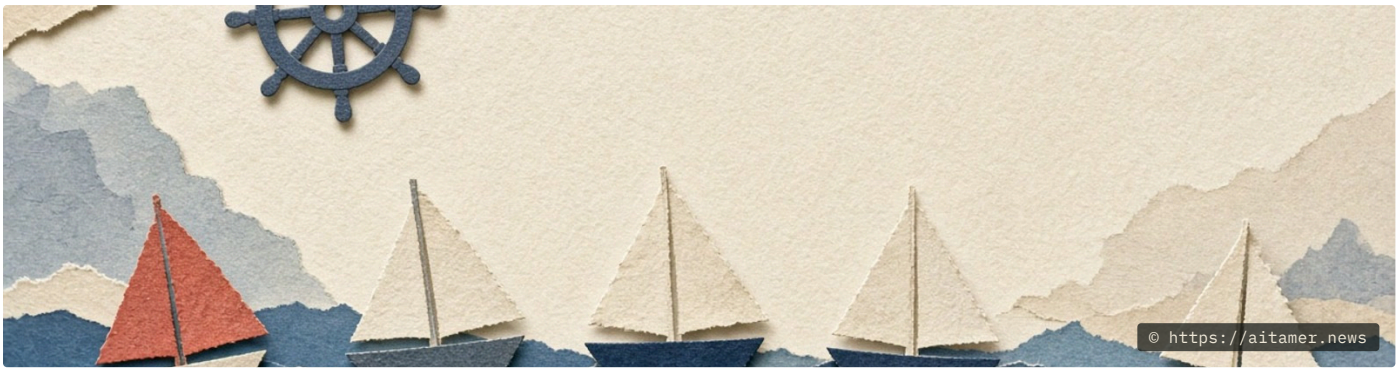


KUBERNETES FROM ZERO · FOUNDATIONS 7 OF 12 · LESSON 7 · LESSON KIT · CHEAT SHEET

Kubernetes from Zero, part 7: Deployments and ReplicaSets

How a Deployment rolls, and the commands from Lesson 7.

Every command ran on a kind v0.33.0 cluster (node v1.37.0, kubectl v1.37.2) on 10 Nov 2026. Cluster: kind, from part 3.

THE ONE RULE

Run Pods through a Deployment. Change the Pod template to roll out, watch rollout status, and fix a bad release by applying the last good file.

What a Deployment owns one ReplicaSet per Pod template

PIECE	WHAT THE LESSON SAYS	HOW YOU SEE IT
Deployment	Keeps the replicas you asked for and rolls them when the Pod template changes.	`kubectl get deploy`
ReplicaSet	One per Pod template version. It keeps its own Pods at the count the Deployment gives it.	names share the template hash
Pod template	Only a change here starts a rollout. Changing `replicas` scales, and starts no rollout.	`spec.template`
selector	Must match the template labels. It is immutable after creation.	`spec.selector.matchLabels`
maxSurge / maxUnavailable	Both default to 25%. The cheat sheet says not both 0.	`strategy.rollingUpdate`
Recreate	Stops the old Pods before starting new ones. Expect a gap in service.	`strategy.type: Recreate`
progress deadline	How long a rollout may stall. The default is 600 seconds.	`spec.progressDeadlineSeconds`
revision history	How many old ReplicaSets to keep. The default is 10.	`spec.revisionHistoryLimit`

A rollout and a rollback from the lesson's recap

1	**apply**	A Deployment owns one ReplicaSet per Pod template version, and each ReplicaSet keeps its Pods at the requested count.
2	**template**	Only changes to the Pod template start a rollout. `maxSurge` and `maxUnavailable` set its pace.
3	**status**	`kubectl rollout status` tells you when a rollout is done or stuck. A stuck rollout leaves the old Pods serving.
4	**undo**	`rollout undo` brings back an old template as a new revision. Then fix the file so `apply` and the cluster agree.

SCAN FOR THE LESSON

Lesson: **Kubernetes from Zero, part 7: Deployments and ReplicaSets**

https://aitamer.news/posts/k8s-from-zero-07-deployments-and-replicasets/?utm_source=lessonkit&utm_medium=pdf&utm_campaign=k8s-07&utm_content=cheatsheet

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Key commands

commands verbatim from the lesson

Run and watch

```
kubectl create deployment web --image=nginx:1.29-alpine \
  --dry-run=client -o yaml
```
then edit and save

```
kubectl rollout status deployment/web --timeout=90s
```
exit 0 when complete

```
kubectl get deploy,rs,pods
```
names share the template hash

```
kubectl scale deployment web --replicas=5
```
the next apply of the file wins

```
kubectl get rs --watch
```
new up, old down

History and rollback

```
kubectl rollout history deployment/web
```
`--revision=N` for details

```
kubectl rollout undo deployment/web
```
creates a new revision

```
kubectl rollout undo deployment/web --to-revision=1
```
check it first

```
kubectl rollout restart deployment/web
```
rolling, not all at once

```
kubectl delete deployment web
```
ReplicaSets and Pods go too

SCAN FOR THE LESSON

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