

KUBERNETES FROM ZERO · FOUNDATIONS 7 OF 12 · LESSON 7 · LESSON KIT · ANSWER KEY

Kubernetes from Zero, part 7: Deployments and ReplicaSets

The answers to the homework sheet, matched by exercise number. Every answer comes from the lesson. Names with random suffixes will differ on your cluster.

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.

Recall

1. What does a Deployment own, and what does each of those keep?

   A Deployment owns one ReplicaSet per Pod template version, and each ReplicaSet keeps its Pods at the requested count.

2. Which change starts a rollout, and which change does not?

   Only a change to the Pod template starts a rollout. Changing `replicas` scales and starts none.

3. What do `maxSurge` and `maxUnavailable` default to, and what does `strategy.type: Recreate` do?

   Both default to 25%. The cheat sheet says not both 0. `Recreate` stops the old Pods before starting new ones, so expect a gap in service.

4. What do `progressDeadlineSeconds` and `revisionHistoryLimit` default to?

   600 seconds, and 10 old ReplicaSets.

Run this and explain

5. Draft a Deployment with the dry-run command in the cheat sheet, apply it, and run `kubectl rollout status deployment/web --timeout=90s`. What exit code means the rollout finished?

   Exit 0. The cheat sheet says the command returns when the rollout is complete.

6. Run `kubectl get deploy,rs,pods`. What do the names share?

   The template hash. The cheat sheet says the names share it.

7. Run `kubectl rollout undo deployment/web`. What does the lesson say this creates?

   A new revision. It brings back an old template as that 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=answer-key

NEXT IN THE SERIES **Next: Lesson 8, Services**. Kubernetes from Zero, part 8, Services. Lesson page

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Predict the outcome

8 Apply fails with `selector` does not match template `labels`. What must be true of the labels?

> The labels under `spec.template.metadata.labels` must include everything in `spec.selector.matchLabels`.

9 Apply fails with `spec.selector: Invalid value: ... field is immutable`. What are the two ways out in the lesson?

> Delete and recreate the Deployment, or create a new one under a new name and move traffic. The selector cannot change after creation.

10 You `kubectl scale`, then the next deploy puts the old count back. Why?

> The file still says the old number. Change `replicas` in the file. The next apply of the file wins.

11 `rollout status` waits forever or reports `exceeded its progress deadline`. What does the lesson tell you to read, and what keeps serving?

> Run `kubectl get pods` and `kubectl describe pod` on the newest Pod. A stuck rollout leaves the old Pods serving. Fix the file and apply, or `rollout undo`.

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