

KUBERNETES FROM ZERO · WORKLOADS & TROUBLESHOOTING 2 OF 14 · LESSON 14 · LESSON KIT · ANSWER KEY

Kubernetes from Zero, part 14: StatefulSets, stable names and a disk per Pod

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 three-node kind v0.33.0 (node v1.37.0, kubectl v1.37.2), postgres:18-alpine, 10 Nov 2026. Cluster: k8s-ep13.

Recall

1. What three things does a StatefulSet give each Pod?

   A stable name, a DNS record through a headless Service, and its own claim.

2. In what order do Pods start and stop under the default policy?

   They start in ordinal order and stop in reverse. A Pod that is never Ready stops the line, unless you set `podManagementPolicy: Parallel`.

3. What happens to claims on scale-down and on delete, by default?

   They survive. Both `whenDeleted` and `whenScaled` default to Retain. Set them to Delete when you want the claims removed.

4. Why can Pods fail to find each other by name even when they are Running?

   The headless Service is missing, its name differs from `serviceName`, or its selector does not match. Check `kubectl get svc` for `CLUSTER-IP None` and compare names.

Predict the outcome

5. The first version of `web-sts.yaml` probed `/` with httpGet, and the empty claim hid nginx's default page. What status code came back, and which Pods were created?

   403. `web-0` sat at `0/1` for three minutes. `web-1` was never created, because OrderedReady blocks every higher ordinal.

6. You change the claim template from 1Gi to 2Gi and apply again. What does the API say?

   `spec.volumeClaimTemplates: ... field is immutable`. Grow existing claims directly if the class allows expansion, or create a new StatefulSet.

SCAN FOR THE LESSON

Lesson: **Kubernetes from Zero, part 14: StatefulSets, stable names and a disk per Pod**

https://aitamer.news/posts/k8s-from-zero-14-statefulsets/?utm_source=lessonkit&utm_medium=pdf&utm_campaign=k8s-14&utm_content=answer-key

NEXT IN THE SERIES **Next: Lesson 15, DaemonSets, Jobs and CronJobs**. Kubernetes from Zero, part 15, DaemonSets, Jobs and CronJobs. Lesson page

Free to share with credit: © aitamer.news

7 You revert a bad template and the rollout stays stuck. What does the lesson say to delete?

> The Pod that was running the bad version, so the controller can recreate it. The docs call this a known issue with OrderedReady.

SCAN FOR THE LESSON

Lesson: **Kubernetes from Zero, part 14: StatefulSets, stable names and a disk per Pod**

https://aitamer.news/posts/k8s-from-zero-14-statefulsets/?utm_source=lessonkit&utm_medium=pdf&utm_campaign=k8s-14&utm_content=answer-key

> NEXT IN THE SERIES Next: Lesson 15, DaemonSets, Jobs and CronJobs. Kubernetes from Zero, part 15, DaemonSets, Jobs and CronJobs. Lesson page

Free to share with credit: © aitamer.news