

KUBERNETES FROM ZERO · WORKLOADS & TROUBLESHOOTING 3 OF 14 · LESSON 15 · LESSON KIT · ANSWER KEY

Kubernetes from Zero, part 15: DaemonSets, Jobs and CronJobs

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

Recall

1. What sets the number of Pods in a DaemonSet, and why was DESIRED 2 on the three-node cluster?

   There is no replicas field. DESIRED is the number of nodes that qualify. The control plane is tainted node-role.kubernetes.io/control-plane:NoSchedule, so the agent stayed off it until the template tolerated that taint.

2. What do completions, parallelism and Indexed mode each do?

   completions is how many Pods must succeed (default 1). parallelism is how many may run at once (default 1). Indexed mode gives each Pod an index from 0 in JOB_COMPLETION_INDEX, and the hostname is the Job name plus that index.

3. What does timeZone change, and what does concurrencyPolicy Forbid do?

   timeZone is an IANA name such as Etc/UTC. Without it, the schedule follows the kube-controller-manager's zone. Forbid does not start a new Job while one from this CronJob is still running. The default policy is Allow.

Run this and explain

4. Apply the node-agent DaemonSet and run kubectl get daemonset node-agent. What does DESIRED mean here?

   In the lab it was 2: the two workers. The control plane did not qualify until the toleration was patched in, and DESIRED then became 3.

5. Wait for job/batch with --for=condition=complete. What did the lesson record for completions, duration and indexes?

   Complete, 6/6, 18 seconds. completedIndexes was 0-5 and succeeded was 6. The logs were item 0 through item 5, each printed by the Pod whose hostname is batch-N.

6. Run kubectl create job report-now --from=cronjob/report. What is that command for?

   It creates a Job from the CronJob template immediately, so you can test the template without waiting for the schedule.

SCAN FOR THE LESSON

Lesson: **Kubernetes from Zero, part 15: DaemonSets, Jobs and CronJobs**

https://aitamer.news/posts/k8s-from-zero-15-daemonsets-jobs-cronjobs/?utm_source=lessonkit&utm_medium=pdf&utm_campaign=k8s-15&utm_content=answer-key

NEXT IN THE SERIES **Next lesson**. The next lesson in Kubernetes from Zero. Series page

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Predict the outcome

7 A DaemonSet shows fewer Pods than you have nodes. What does the lesson tell you to check?

> Look at DESIRED and at the missing node's taints with kubectl describe node. Add a toleration only for nodes the agent should run on, or fix the node selector.

8 A Job is Failed with reason BackoffLimitExceeded, and restartPolicy is Never. Can you still read the logs, and will this Job try again?

> The failed Pods stay, so kubectl logs on each one still works. The retries are spent. Fix the command and create the Job again. A failed Job does not restart.

9 A CronJob fires at the wrong hour, or skips runs after the controller was down. What does the lesson name?

> A missing timeZone follows the controller manager's zone. After more than 100 missed schedules the controller records a TooManyMissedTimes warning and starts only the most recent missed run. Set startingDeadlineSeconds. Overlapping runs are the default Allow; use Forbid or Replace when runs must not overlap.

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