



Exercise 4.3: Designing Applications With Duration: Create a CronJob

A CronJob creates a watch loop which will create a batch job on your behalf when the time becomes true. We will use our existing Job file to start.

1. Copy the Job file to a new file.

```
student@cp:~$ cp job.yaml cronjob.yaml
```

2. Edit the file to look like the annotated file shown below.

```
student@cp:~$ vim cronjob.yaml
```

YAML

cronjob.yaml

```
1 apiVersion: batch/v1
2 kind: CronJob    #<-- Change this line
3 metadata:
4   name: sleepy
5 spec:
6   schedule: "*/2 * * * *"    #<-- Remove completions:, parallelism:, and activeDeadlineSeconds:
7   jobTemplate:               #<-- Add Linux style cronjob syntax
8     spec:                   #<-- New jobTemplate and spec
9       template:             #<-- This and following lines space four to right
10        spec:
11          containers:
12            - name: resting
13              image: busybox
14              command: ["/bin/sleep"]
15              args: ["3"]
16          restartPolicy: Never
```

3. Create the new CronJob. View the jobs. It will take two minutes for the CronJob to run and generate a new batch Job.

```
student@cp:~$ kubectl create -f cronjob.yaml
```

```
cronjob.batch/sleepy created
```

```
student@cp:~$ kubectl get cronjobs.batch
```

NAME	SCHEDULE	SUSPEND	ACTIVE	LAST SCHEDULE	AGE
sleepy	*/2 * * * *	False	0	<none>	8s

```
student@cp:~$ kubectl get job
```

```
No resources found in default namespace.
```

4. After two minutes you should see jobs start to run.

```
student@cp:~$ kubectl get cronjobs.batch
```

NAME	SCHEDULE	SUSPEND	ACTIVE	LAST SCHEDULE	AGE
sleepy	*/* * * * *	False	0	21s	2m1s

```
student@cp:~$ kubectl get jobs.batch
```

NAME	COMPLETIONS	DURATION	AGE
sleepy-1539722040	1/1	5s	18s

```
student@cp:~$ kubectl get jobs.batch
```

NAME	COMPLETIONS	DURATION	AGE
sleepy-1539722040	1/1	5s	5m17s
sleepy-1539722160	1/1	6s	3m17s
sleepy-1539722280	1/1	6s	77s

5. Ensure that if the job continues for more than 10 seconds it is terminated. We will first edit the **sleep** command to run for 30 seconds then add the `activeDeadlineSeconds`: entry to the container.

```
student@cp:~$ vim cronjob.yaml
```

YAML

cronjob.yaml

```
1  ....
2  jobTemplate:
3    spec:
4      template:
5        spec:
6          activeDeadlineSeconds: 10  #<-- Add this line
7          containers:
8            - name: resting
9  ....
10         command: ["/bin/sleep"]
11         args: ["30"]  #<-- Edit this line
12         restartPolicy: Never
13
```

6. Delete and recreate the CronJob. It may take a couple of minutes for the batch Job to be created and terminate due to the timer.

```
student@cp:~$ kubectl delete cronjobs.batch sleepy
```

```
cronjob.batch "sleepy" deleted
```

```
student@cp:~$ kubectl create -f cronjob.yaml
```

```
cronjob.batch/sleepy created
```

```
student@cp:~$ sleep 120 ; kubectl get jobs
```

NAME	COMPLETIONS	DURATION	AGE
sleepy-1539723240	0/1	61s	61s

```
student@cp:~$ kubectl get cronjobs.batch
```

NAME	SCHEDULE	SUSPEND	ACTIVE	LAST SCHEDULE	AGE
sleepy	*/* * * * *	False	1	72s	94s

```
student@cp:~$ kubectl get jobs
```

NAME	COMPLETIONS	DURATION	AGE
sleepy-1539723240	0/1	75s	75s

```
student@cp:~$ kubectl get jobs
```

NAME	COMPLETIONS	DURATION	AGE
sleepy-1539723240	0/1	2m19s	2m19s
sleepy-1539723360	0/1	19s	19s

```
student@cp:~$ kubectl get cronjobs.batch
```

NAME	SCHEDULE	SUSPEND	ACTIVE	LAST SCHEDULE	AGE
sleepy	*/* * * * *	False	2	31s	2m53s

7. Clean up by deleting the CronJob.

```
student@cp:~$ kubectl delete cronjobs.batch sleepy
```

```
cronjob.batch "sleepy" deleted
```