

容器按照持续运行的时间可分为两类:服务类容器和工作类容器
服务类容器通常持续提供服务,需要一直运行,比如HTTPServer、Daemon等。
工作类容器则是一次性任务,比如批处理程序,完成后容器就退出
Kubernetes的Deployment、ReplicaSet和DaemonSet都用于管理服务类容器;
对于工作类容器,我们使用Job

这里

下面大家先看一个例子:

```
apiVersion: batch/v1beta1 # 当前Job的apiVersion
kind: CronJob             # 指明当前资源的类型为Job
metadata:
  namespace: anxincloud
  labels:
    app: job-prediction-water-level
    name: job-prediction-water-level
spec:
  concurrencyPolicy: Replace
  jobTemplate:
    metadata:
      labels:
        app: job-prediction-water-level
    spec:
      template:
        spec:
          containers:
            - name: prediction-water-level
              resources:
                requests:
                  cpu: 100m
                  memory: 100Mi
                limits:
                  cpu: '4'
                  memory: 500Mi
              imagePullPolicy: IfNotPresent
              image: prediction-water-level[:tag]
              envFrom:
                - configMapRef:
```

```
      name: cm-prediction-water-level
      restartPolicy: OnFailure
      backoffLimit: 3
      completions: 1
      parallelism: 1
  schedule: 15/15 * * * * # cron 表达式, "从15分开始每隔15分钟执行一次"
  successfulJobsHistoryLimit: 1 # 记录执行成功的记录数量
  failedJobsHistoryLimit: 3 # 记录执行失败的记录数量
```

这里介绍下 `restartPolicy`, 这个重启策略与 `backoffLimit` 配合使用, 当 `restartPolicy` 设置为 `onFailure` 时, 容器启动失败了会重启, 而不是另起一个新的。

当 `restartPolicy` 设置为 `Never` 时, 容器启动失败了另新建一个容器。
`backoffLimit` 是做一个次数限制, 当失败次数达到限制时停止重启或新建容器。

`schedule` 配置 `cron` 表达式, 这里表达式最小单位是分钟

启动job

```
$ kubectl apply -f myjob.yml

job.batch/job-prediction-water-level created
```

查看 job

```
$ kubectl get job -n anxinyun
```

NAME	COMPLETIONS	DURATION	AGE
job-prediction-water-level-1621233900	0/1	110m	110m
job-prediction-water-level-1621239300	1/1	44s	20m
job-prediction-water-level-1621240200	0/1	5m26s	5m26s

查看日志

```
$ kubectl get pod -n anxinyun
```

NAME	READY	STATUS	
job-prediction-water-level-1621239300-l2jls	0/1	Completed	0
22m			
job-prediction-water-level-1621240200-cvb89	1/1	Running	0
7m44s			

```
$ kubectl logs -n anxinyun job-prediction-water-level-1621240200-cvb89
```

```
2021-05-17 16:30:37.270382: W
tensorflow/stream_executor/platform/default/dso_loader.cc:55] Could not load
dynamic library 'libcuda.so.1'; dLError: libcuda.so.1: cannot open shared
object file: No such file or directory
2021-05-17 16:30:37.270475: I
tensorflow/stream_executor/cuda/cuda_diagnostics.cc:156] kernel driver does
not appear to be running on this host (job-prediction-water-level-
1621240200-cvb89): /proc/driver/nvidia/version does not exist
2021-05-17 16:30:37.270724: I
tensorflow/core/platform/cpu_feature_guard.cc:143] Your CPU supports
instructions that this TensorFlow binary was not compiled to use: AVX2 FMA
2021-05-17 16:30:37.403503: I
tensorflow/core/platform/profile_utils/cpu_utils.cc:102] CPU Frequency:
2300110000 Hz
2021-05-17 16:30:37.407977: I
tensorflow/compiler/xla/service/service.cc:168] XLA service 0x7fab4c000b20
initialized for platform Host (this does not guarantee that XLA will be
used). Devices:
...
...
...
```