

Job负责批量处理短暂的一次性任务 (short lived one-off tasks)，即仅执行一次的任务，它保证批处理任务的一个或多个Pod成功结束。

根据 `.spec.completions` 和 `.spec.Parallelism` 的设置，可以将 Job 划分为以下几种 pattern：

Job 类型	使用示例	行为	completions	Parallelism
一次性 Job	数据库迁移	创建一个 Pod 直至其成功结束	1	1
固定结束次数的 Job	处理工作队列的 Pod	依次创建一个 Pod 运行直至 completions 个成功结束	2+	1
固定结束次数的并行 Job	多个 Pod 同时处理工作队列	依次创建多个 Pod 运行直至 completions 个成功结束	2+	2+
并行 Job	多个 Pod 同时处理工作队列	创建一个或多个 Pod 直至有一个成功结束	1	2+

completions
integer

Specifies the desired number of successfully finished pods the job should be run with. Setting to nil means that the success of any pod signals the success of all pods, and allows parallelism to have any positive value. Setting to 1 means that parallelism is limited to 1 and the success of that pod signals the success of the job. More info: <https://kubernetes.io/docs/concepts/workloads/controllers/jobs-run-to-completion/>

Job结束需要成功运行的Pod个数，默认为1

parallelism
integer

Specifies the maximum desired number of pods the job should run at any given time. The actual number of pods running in steady state will be less than this number when $(\text{.spec.completions} - \text{.status.successful}) < \text{.spec.parallelism}$, i.e. when the work left to do is less than max parallelism. More info: <https://kubernetes.io/docs/concepts/workloads/controllers/jobs-run-to-completion/>

并行运行的Pod的个数，默认为1。

固定结束次数的并行Job

用于计算圆周率的如下任务:

```
apiVersion: batch/v1
kind: Job
metadata:
  name: pi
spec:
  completions: 10
  parallelism: 5
  template:
    spec:
      containers:
      - name: pi
        image: perl
        command: ["perl", "-Mbignum=bpi", "-wle", "print bpi(2000)"]
        restartPolicy: Never
```

root@k8s-master:~/sunxi/job# kubectl apply -f job_completions.yaml

job.batch/pi created

root@k8s-master:~/sunxi/job# kubectl get job --watch

NAME	COMPLETIONS	DURATION	AGE
job-wq-2	2/1 of 2	68s	3h59m
pi	0/10	6s	6s
pi	1/10	38s	38s
pi	2/10	45s	45s
pi	3/10	49s	49s
pi	4/10	57s	57s
pi	5/10	62s	62s
pi	6/10	81s	81s
pi	7/10	86s	86s
pi	8/10	92s	92s
pi	9/10	97s	97s
pi	10/10	2m16s	2m16s

```
root@k8s-master:~/sunxi/job# kubectl get pods
NAME                READY   STATUS              RESTARTS   AGE
pi-2kp59            0/1     ContainerCreating   0           7s
pi-5jslq            0/1     ContainerCreating   0           7s
pi-fn9ft            0/1     ContainerCreating   0           7s
pi-ghb2p            1/1     Running             0           7s
pi-x286l            0/1     ContainerCreating   0           7s
redis-master        1/1     Running             0           4h56m
temp-6c96bb599-qs6w7 1/1     Running             0           4h53m
root@k8s-master:~/sunxi/job#
```

```
root@k8s-master:~/sunxi/job# kubectl get pods
NAME                READY   STATUS    RESTARTS   AGE
pi-2kp59            0/1     Completed 0           107s
pi-4hs8b            0/1     Completed 0           88s
pi-5jslq            0/1     Completed 0           107s
pi-9pqrn            0/1     Completed 0           59s
pi-fn9ft            0/1     Completed 0           107s
pi-ghb2p            0/1     Completed 0           107s
pi-mq574            0/1     Completed 0           44s
pi-qlknq            0/1     Completed 0           97s
pi-s826n            0/1     Completed 0           84s
pi-x286l            0/1     Completed 0           107s
redis-master        1/1     Running   0           4h57m
temp-6c96bb599-qs6w7 1/1     Running   0           4h55m
root@k8s-master:~/sunxi/job#
```

固定结束次数的并行Job（所有任务顺序执行，只有前一个任务执行成功时，后一个任务才会开始执行）

apiVersion: batch/v1

kind: Job

metadata:

name: pi

spec:

completions: 10

parallelism: 1

template:

spec:

containers:

- name: pi

image: perl

```
        command: ["perl", "-Mbignum=bpi", "-wle", "print bpi(2000)"]
        restartPolicy: Never
```

```
root@k8s-master:~/sunxi/job# kubectl apply -f job_completions_one.yaml
```

```
job.batch/pi created
```

```
root@k8s-master:~/sunxi/job# kubectl get job --watch
```

```
NAME      COMPLETIONS  DURATION  AGE
```

```
job-wq-2  2/1 of 2     68s      4h5m
```

```
pi        0/10        1s       1s
```

```
pi        1/10       11s      11s
```

```
pi        2/10       21s      21s
```

```
pi        3/10       32s      32s
```

```
pi        4/10       51s      51s
```

```
pi        5/10       69s      69s
```

```
pi        5/10       69s      69s
```

```
pi        5/10       69s      69s
```

```
pi        6/10       78s      78s
```

```
pi        7/10       91s      91s
```

```
pi        8/10      4m3s     4m3s
```

```
pi        9/10      4m14s    4m14s
```

```
pi       10/10     4m28s    4m28s
```

```
root@k8s-master:~/sunxi/job# kubectl get pods
NAME                READY   STATUS             RESTARTS   AGE
pi-vh4tj            0/1     ContainerCreating   0           4s
redis-master        1/1     Running             0           4h59m
temp-6c96bb599-qs6w7 1/1     Running             0           4h56m
root@k8s-master:~/sunxi/job#
```

```
root@k8s-master:~/sunxi/job# kubectl get pods
NAME                READY   STATUS             RESTARTS   AGE
pi-2dspm            0/1     Completed           0           69s
pi-8jshp            0/1     Completed           0           47s
pi-ct8q7            0/1     Completed           0           97s
pi-hgkmp            0/1     Completed           0           2m
pi-jq2qb            0/1     Completed           0          110s
pi-mnlsh            0/1     Completed           0           36s
pi-q8g75            0/1     ContainerCreating   0           10s
pi-vh4tj            0/1     Completed           0          2m17s
pi-w7486            0/1     Completed           0           21s
pi-zgpft            0/1     Completed           0           58s
redis-master        1/1     Running             0           5h1m
temp-6c96bb599-qs6w7 1/1     Running             0           4h58m
```