

How do you run Pods
till task completion?
&
at scheduled times?



Jobs

Concept

Objectives

Concept

- a. Jobs Overview
- b. Types of Jobs
- c. Run-to-completion (Jobs)

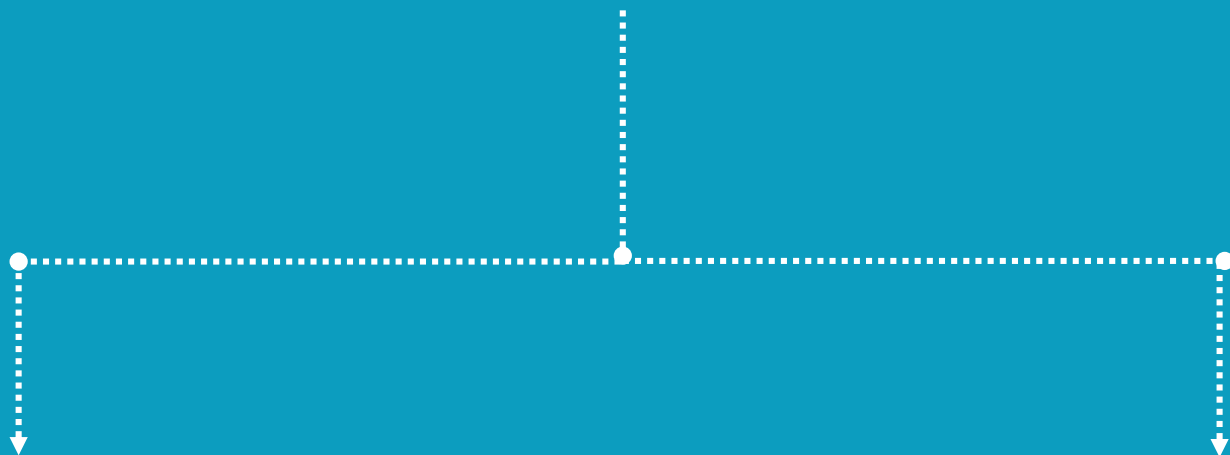
Review Demo

- a. Manifest file
- b. Create and display
- c. Test
- d. Clean up

Jobs

Run to completion
(Jobs)

Scheduled
(CronJob)

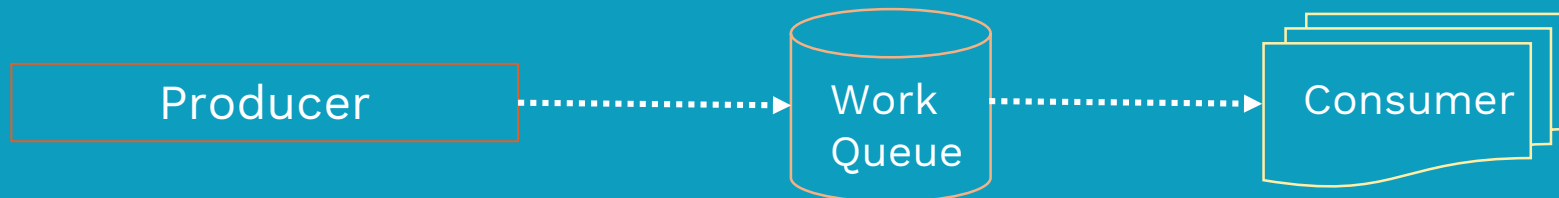


Run to completion

- Each job creates one or more Pods
- Ensures they are successfully terminated
- Job controller restarts or rescheduled if a pod or node fails during execution
- Can run multiple pods in parallel
- Can scale up using `kubectl scale` command

Use Cases:

- One time initialization of resources such as Databases
- Multiple workers to process messages in queue



Review

Demo

- a. Manifest file
- b. Create & Deploy Job



- d. Test & Validate– Node fails
- e. Clean up

Config file

```
apiVersion: batch/v1
```

```
kind: Job
```

```
metadata:
```

```
  name: countdown
```

```
spec:
```

```
  template:
```

```
    metadata:
```

```
      name: countdown
```

```
    spec:
```

```
      containers:
```

```
        - name: counter
```

```
          image: centos:7
```

```
          command:
```

```
            - "bin/bash"
```

```
            - "-c"
```

```
            - "for i in 9 8 7 6 5 4 3 2 1 ; do echo $i ; done"
```

```
          restartPolicy: Never
```



Pod

Create, Display and Test

```
[srinath@master ~]$ kubectl create -f countdown-jobs.yaml
job.batch/countdown created
```

```
[srinath@master ~]$ kubectl get jobs
NAME          DESIRED  SUCCESSFUL  AGE
countdown     1        1           11m
```

```
[srinath@master ~]$ kubectl get po
NAME             READY   STATUS    RESTARTS  AGE
countdown-brzdt  0/1     Completed  0         10s
```

```
[srinath@master ~]$ kubectl logs countdown-brzdt
```

```
9
8
7
6
5
4
3
2
1
```


Describe

```
[srinath@master ~]$ kubectl describe jobs countdown
```

```
Name:      countdown
Namespace:  default
Selector:   controller-uid=5071e78a-ac4e-11e8-b3de-42010a800003
Labels:     controller-uid=5071e78a-ac4e-11e8-b3de-42010a800003
            job-name=countdown
Annotations: <none>
Parallelism: 1
Completions: 1
Start Time:   Thu, 30 Aug 2018 12:14:59 +0000
Pods Statuses: 0 Running / 1 Succeeded / 0 Failed
```

```
Pod Template:
  Labels:  controller-uid=5071e78a-ac4e-11e8-b3de-42010a800003
          job-name=countdown
```

```
Containers:
```

```
...
```

```
...
```

```
Events:
```

Type	Reason	Age	From	Message
----	-----	----	----	-----
Normal	SuccessfulCreate	11m	job-controller	Created pod: countdown-brzdt

Cleanup

```
[srinath@master ~]$ kubectl delete jobs countdown  
job.batch "countdown" deleted
```

```
[srinath@master ~]$ kubectl get po  
No resources found
```

Summary

Concept

- a. Job is a Controller in k8s, which supervises Pods for carrying out certain tasks
- b. Run-to-completion (Jobs) and Scheduled jobs (CronJob)
- c. Run-to-completion

Review Demo

- a. Manifest file
- b. Create and display
- c. Validate
- d. Clean up

Coming up...

Demo
Jobs