DaemonSet

Introduction:

A DaemonSet ensures that all (or some) Nodes run a copy of a Pod. As nodes are added to the cluster, Pods are added to them. As nodes are removed from the cluster, those Pods are garbage collected. Deleting a DaemonSet will clean up the Pods it created.

Some typical uses of a DaemonSet are:

- running a cluster storage daemon on every node
- running a logs collection daemon on every node
- running a node monitoring daemon on every node

Objectives:

1. Create and delete a DaemonSet

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We can use the below Yaml file to create a DaemonSet. A DaemonSet is similar to Replica set but we do not mention the number of replicas inside a DaemonSet file.

```
vi daemonset.yaml
```

```
apiVersion: apps/v1
kind: DaemonSet
metadata:
  name: daemonset
spec:
  selector:
    matchLabels:
      name: monitoring
  template:
    metadata:
      labels:
        name: monitoring
    spec:
      containers:
      - name: fluentd-elasticsearch
        image: quay.io/fluentd_elasticsearch/fluentd:v2.5.2
```

```
kubectl apply -f daemonset.yaml
```

As we are having two worker nodes, so pods will be deployed on both the nodes. See the result below.

```
root@master:~# kubectl get pods -o wide
NAME              READY   STATUS    RESTARTS   AGE   IP               NODE      NOMINATED NODE   READINESS GATES
daemonset-5sf5v   1/1     Running   0          82s   192.168.189.96   worker2   <none>           <none>
daemonset-wspr9   1/1     Running   0          82s   192.168.235.154   worker1   <none>           <none>
root@master:~#
```

To get the more details we can use below command.

```
kubectl get ds
```

```
kubectl describe ds daemonset
```

```
root@master:~#
root@master:~# kubectl get ds
NAME        DESIRED   CURRENT   READY   UP-TO-DATE   AVAILABLE   NODE SELECTOR   AGE
daemonset   2         2         2       2            2           <none>          4m51s
root@master:~#
root@master:~# kubectl describe ds daemonset
Name:           daemonset
Selector:       name=monitoring
Node-Selector:  <none>
Labels:         <none>
Annotations:    deprecated.daemonset.template.generation: 1
Desired Number of Nodes Scheduled: 2
Current Number of Nodes Scheduled: 2
Number of Nodes Scheduled with Up-to-date Pods: 2
Number of Nodes Scheduled with Available Pods: 2
Number of Nodes Misscheduled: 0
Pods Status:  2 Running / 0 Waiting / 0 Succeeded / 0 Failed
Pod Template:
  Labels:  name=monitoring
  Containers:
   fluentd-elasticsearch:
    Image:        quay.io/fluentd_elasticsearch/fluentd:v2.5.2
    Port:         <none>
    Host Port:    <none>
    Environment:  <none>
    Mounts:       <none>
  Volumes:        <none>
Events:
  Type    Reason            Age   From                  Message
  ----    ------            ----  ----                  -------
  Normal  SuccessfulCreate  5m1s  daemonset-controller  Created pod: daemonset-wspr9
  Normal  SuccessfulCreate  5m1s  daemonset-controller  Created pod: daemonset-5sf5v
```

Use the below command to delete the DaemonSet.

```
kubectl delete ds daemonset
```