

节点亲和性

pod应该在哪个节点上

pod.spec.nodeAffinity

- preferredDuringSchedulingIgnoredDuringExecution: 软策略
- requiredDuringSchedulingIgnoredDuringExecution: 硬策略

requiredDuringSchedulingIgnoredDuringExecution

```
apiVersion: v1
kind: Pod
metadata:
  name: affinity
  labels:
    app: node-affinity-pod
spec:
  containers:
  - name: with-node-affinity
    image: hub.atguigu.com/library/myapp:v1
  affinity:
    nodeAffinity:
      requiredDuringSchedulingIgnoredDuringExecution:
        nodeSelectorTerms:
        - matchExpressions:
          - key: kubernetes.io/hostname
            operator: NotIn
            values:
            - k8s-node02
```

指的是kubectl get node --show-labels里的label

preferredDuringSchedulingIgnoredDuringExecution

```
apiVersion: v1
kind: Pod
metadata:
  name: affinity
  labels:
    app: node-affinity-pod
spec:
  containers:
  - name: with-node-affinity
    image: hub.atguigu.com/library/myapp:v1
  affinity:
    nodeAffinity:
      preferredDuringSchedulingIgnoredDuringExecution:
      - weight: 1
        preference:
          matchExpressions:
          - key: source
```

```
operator: In
values:
- qikqiak
```

合体

```
apiVersion: v1
kind: Pod
metadata:
  name: affinity
  labels:
    app: node-affinity-pod
spec:
  containers:
  - name: with-node-affinity
    image: hub.atguigu.com/library/myapp:v1
  affinity:
    nodeAffinity:
      requiredDuringSchedulingIgnoredDuringExecution:
        nodeSelectorTerms:
        - matchExpressions:
          - key: kubernetes.io/hostname
            operator: NotIn
            values:
            - k8s-node02
      preferredDuringSchedulingIgnoredDuringExecution:
      - weight: 1
        preference:
          matchExpressions:
          - key: source
            operator: In
            values:
            - qikqiak
```

键值运算关系

- In: label 的值在某个列表中
- NotIn: label 的值不在某个列表中
- Gt: label 的值大于某个值
- Lt: label 的值小于某个值
- Exists: 某个 label 存在
- DoesNotExist: 某个 label 不存在

Pod 亲和性

pod应该和哪个pod在一块

pod.spec.affinity.podAffinity/podAntiAffinity

- preferredDuringSchedulingIgnoredDuringExecution: 软策略
- requiredDuringSchedulingIgnoredDuringExecution: 硬策略

```

apiVersion: v1
kind: Pod
metadata:
  name: pod-3
  labels:
    app: pod-3
spec:
  containers:
  - name: pod-3
    image: hub.atguigu.com/library/myapp:v1
  affinity:
    podAffinity:
      requiredDuringSchedulingIgnoredDuringExecution:
      - labelSelector:
          matchExpressions:
          - key: app
            operator: In
            values:
            - pod-1
        topologyKey: kubernetes.io/hostname
    podAntiAffinity:
      preferredDuringSchedulingIgnoredDuringExecution:
      - weight: 1
        podAffinityTerm:
          labelSelector:
            matchExpressions:
            - key: app
              operator: In
              values:
              - pod-2
          topologyKey: kubernetes.io/hostname

```

pod3创建在
pod label为app=pod1的拓扑域上

拓扑域，指定node哪个标签。标签值相同的在一个拓扑域

亲和性/反亲和性调度策略比较如下：

调度策略	匹配标签	操作符	拓扑域支持	调度目标
nodeAffinity	主机	In, NotIn, Exists, DoesNotExist, Gt, Lt	否	指定主机
podAffinity	POD	In, NotIn, Exists, DoesNotExist	是	POD与指定POD同一拓扑域
podAnitAffinity	POD	In, NotIn, Exists, DoesNotExist	是	POD与指定POD不在同一拓扑域

