



Pod Scheduling



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Taints and Tolerations



Taints and Tolerations



Node-1



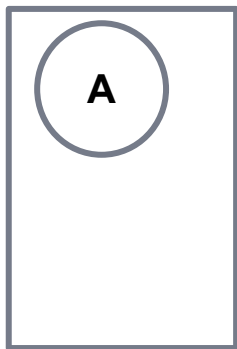
Node-2



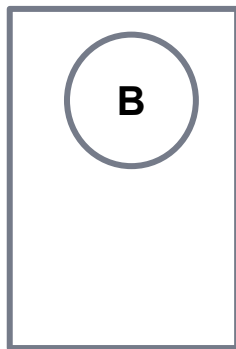
Node-3



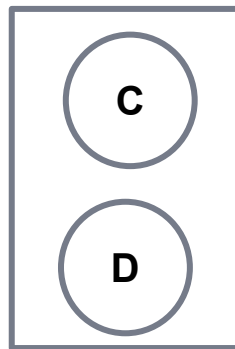
Taints and Tolerations



Node-1



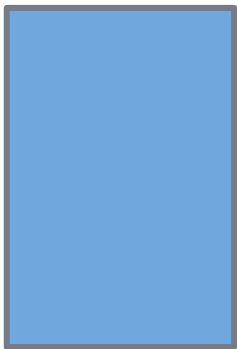
Node-2



Node-3



Taints and Tolerations



Node-1



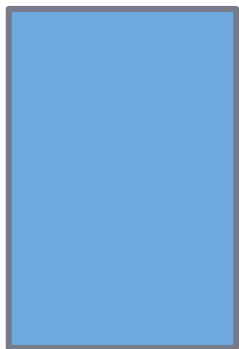
Node-2



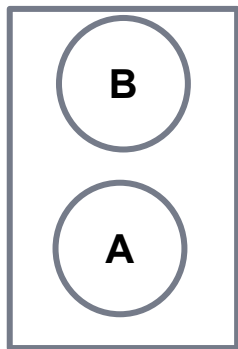
Node-3



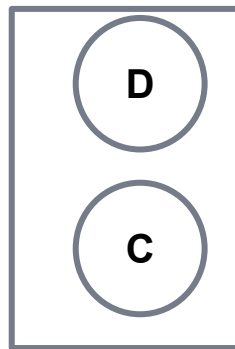
Taints and Tolerations



Node-1



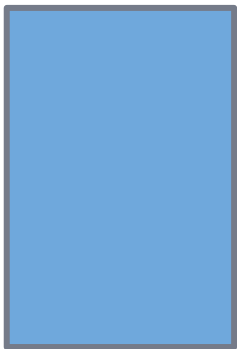
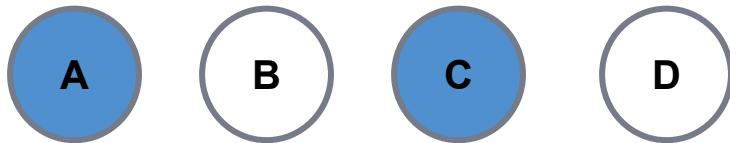
Node-2



Node-3



Taints and Tolerations



Node-1



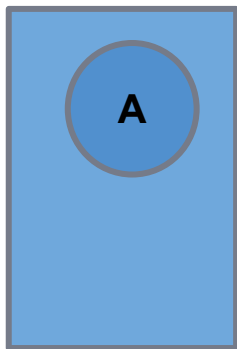
Node-2



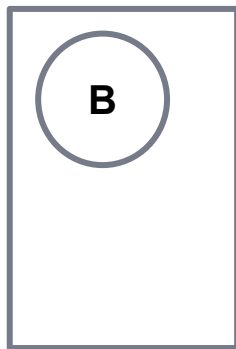
Node-3



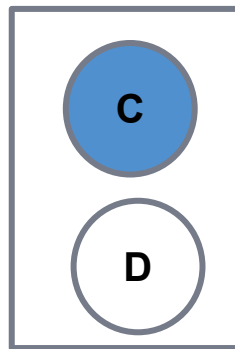
Taints and Tolerations



Node-1



Node-2



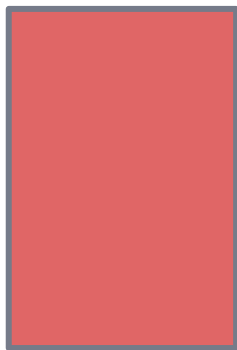
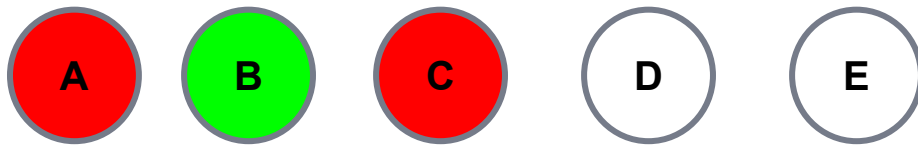
Node-3



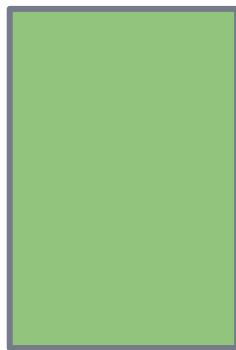
2

nodeSelector and Node Affinity

nodeSelector and Node Affinity



Node-1

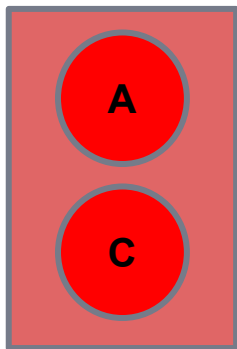


Node-2

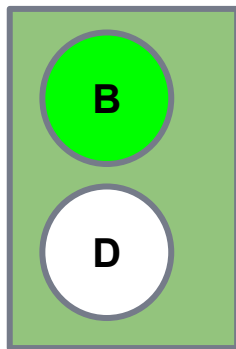


Node-3

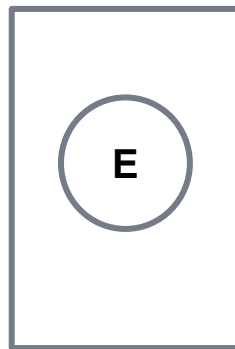
nodeSelector and Node Affinity



Node-1



Node-2



Node-3



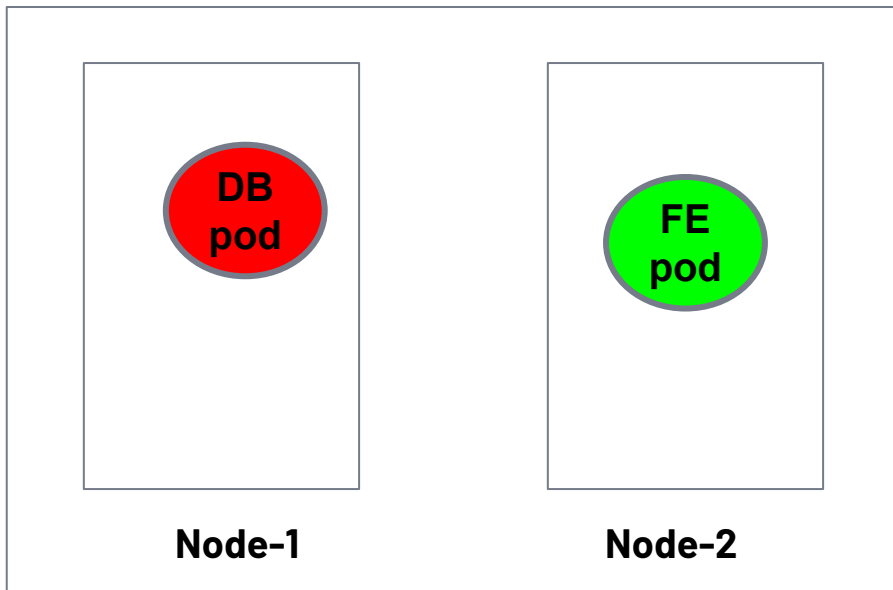
3

podAffinity

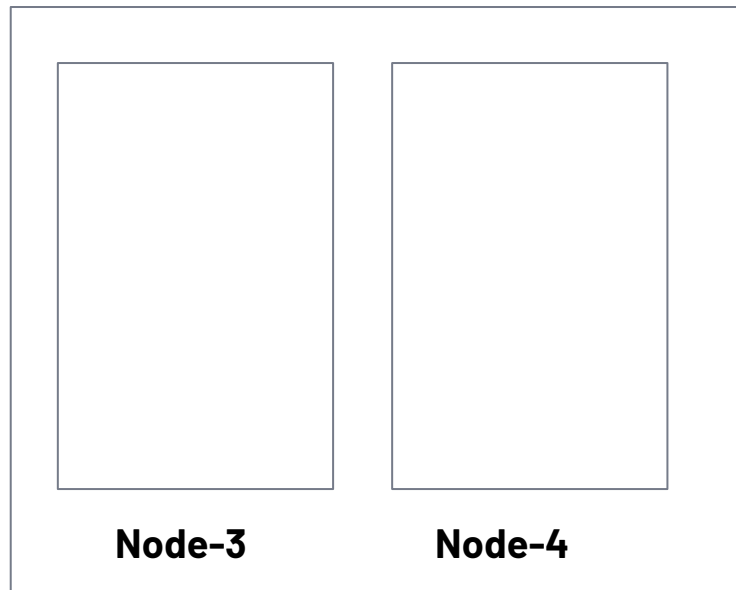
podAffinity



AZ-1



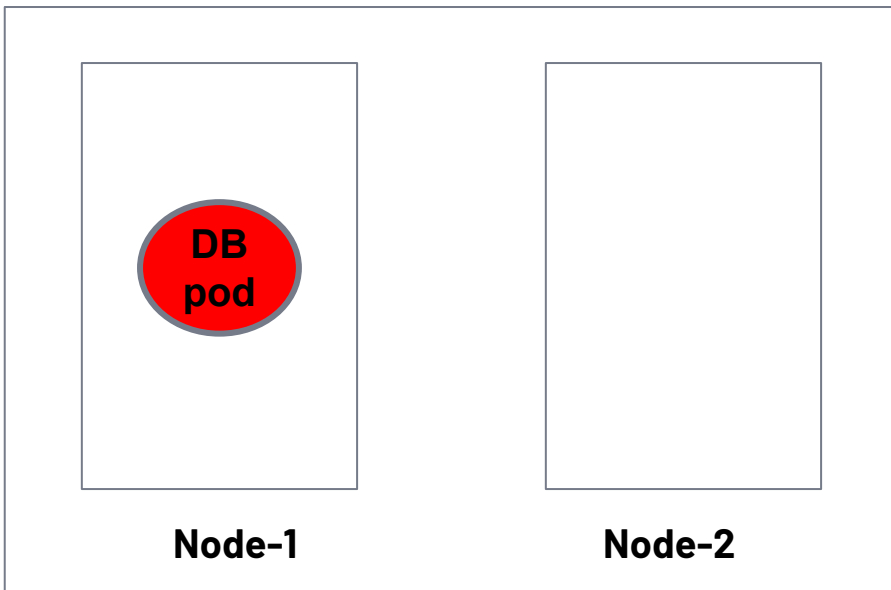
AZ-2



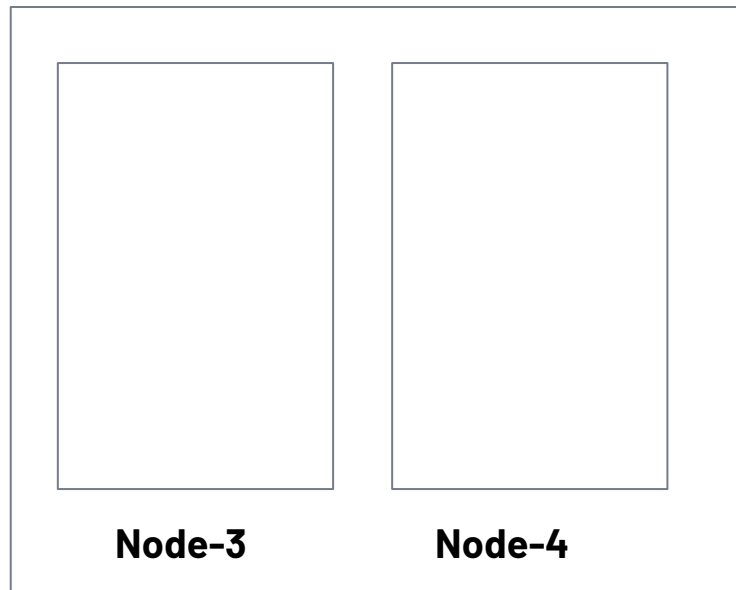
podAffinity



AZ-1



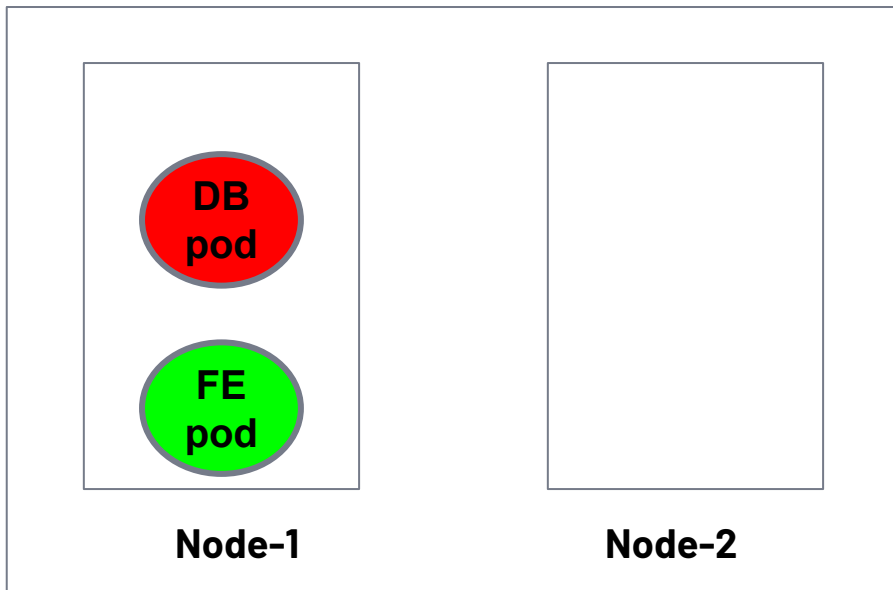
AZ-2



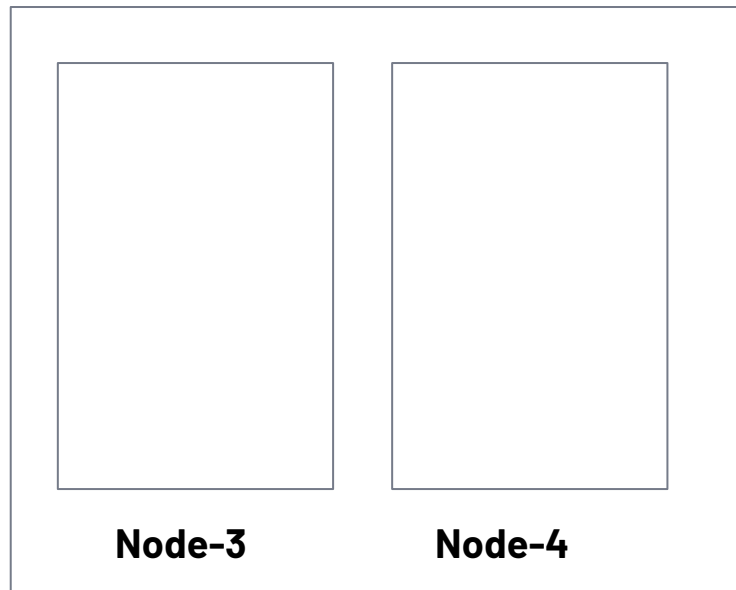
podAffinity



AZ-1



AZ-2



Assigning Pods to Nodes



nodeName

```
apiVersion: v1
kind: Pod
metadata:
  name: nginx
spec:
  containers:
  - name: nginx
    image: nginx
  nodeName: kube-01
```

nodeAffinity

```
apiVersion: v1
kind: Pod
metadata:
  name: with-node-affinity
spec:
  affinity:
    nodeAffinity:
      requiredDuringSchedulingIgnoredDuringExecution:
        nodeSelectorTerms:
        - matchExpressions:
            - key: topology.kubernetes.io/zone
              operator: In
              values:
                - antarctica-east1
                - antarctica-west1
      preferredDuringSchedulingIgnoredDuringExecution:
        - weight: 1
          preference:
            matchExpressions:
            - key: another-node-label-key
              operator: In
              values:
                - another-node-label-value
  containers:
  - name: with-node-affinity
    image: registry.k8s.io/pause:2.0
```

podAffinity

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: web-server
spec:
  selector:
    matchLabels:
      app: web-store
  replicas: 3
  template:
    metadata:
      labels:
        app: web-store
    spec:
      affinity:
        podAffinity:
          requiredDuringSchedulingIgnoredDuringExecution:
            - labelSelector:
                matchExpressions:
                - key: app
                  operator: In
                  values:
                    - web-store
              topologyKey: "kubernetes.io/hostname"
        podAffinity:
          requiredDuringSchedulingIgnoredDuringExecution:
            - labelSelector:
                matchExpressions:
                - key: app
                  operator: In
                  values:
                    - store
              topologyKey: "kubernetes.io/hostname"
      containers:
      - name: web-app
        image: nginx:1.16-alpine
```

podAntiAffinity

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: redis-cache
spec:
  selector:
    matchLabels:
      app: store
  replicas: 3
  template:
    metadata:
      labels:
        app: store
    spec:
      affinity:
        podAntiAffinity:
          requiredDuringSchedulingIgnoredDuringExecution:
            - labelSelector:
                matchExpressions:
                - key: app
                  operator: In
                  values:
                    - store
              topologyKey: "kubernetes.io/hostname"
      containers:
      - name: redis-server
        image: redis:3.2-alpine
```

nodeSelector

```
apiVersion: v1
kind: Pod
metadata:
  name: nginx
  labels:
    env: test
spec:
  containers:
  - name: nginx
    image: nginx
  imagePullPolicy: IfNotPresent
  nodeSelector:
    disktype: ssd
```

Assigning Pods to Nodes



podAffinity

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: web-server
spec:
  selector:
    matchLabels:
      app: web-store
  replicas: 3
  template:
    metadata:
      labels:
        app: web-store
    spec:
      affinity:
        podAntiAffinity:
          requiredDuringSchedulingIgnoredDuringExecution:
            - labelSelector:
                matchExpressions:
                  - key: app
                    operator: In
                    values:
                      - web-store
              topologyKey: "kubernetes.io/hostname"
        podAffinity:
          requiredDuringSchedulingIgnoredDuringExecution:
            - labelSelector:
                matchExpressions:
                  - key: app
                    operator: In
                    values:
                      - store
              topologyKey: "kubernetes.io/hostname"
      containers:
        - name: web-app
          image: nginx:1.16-alpine
```

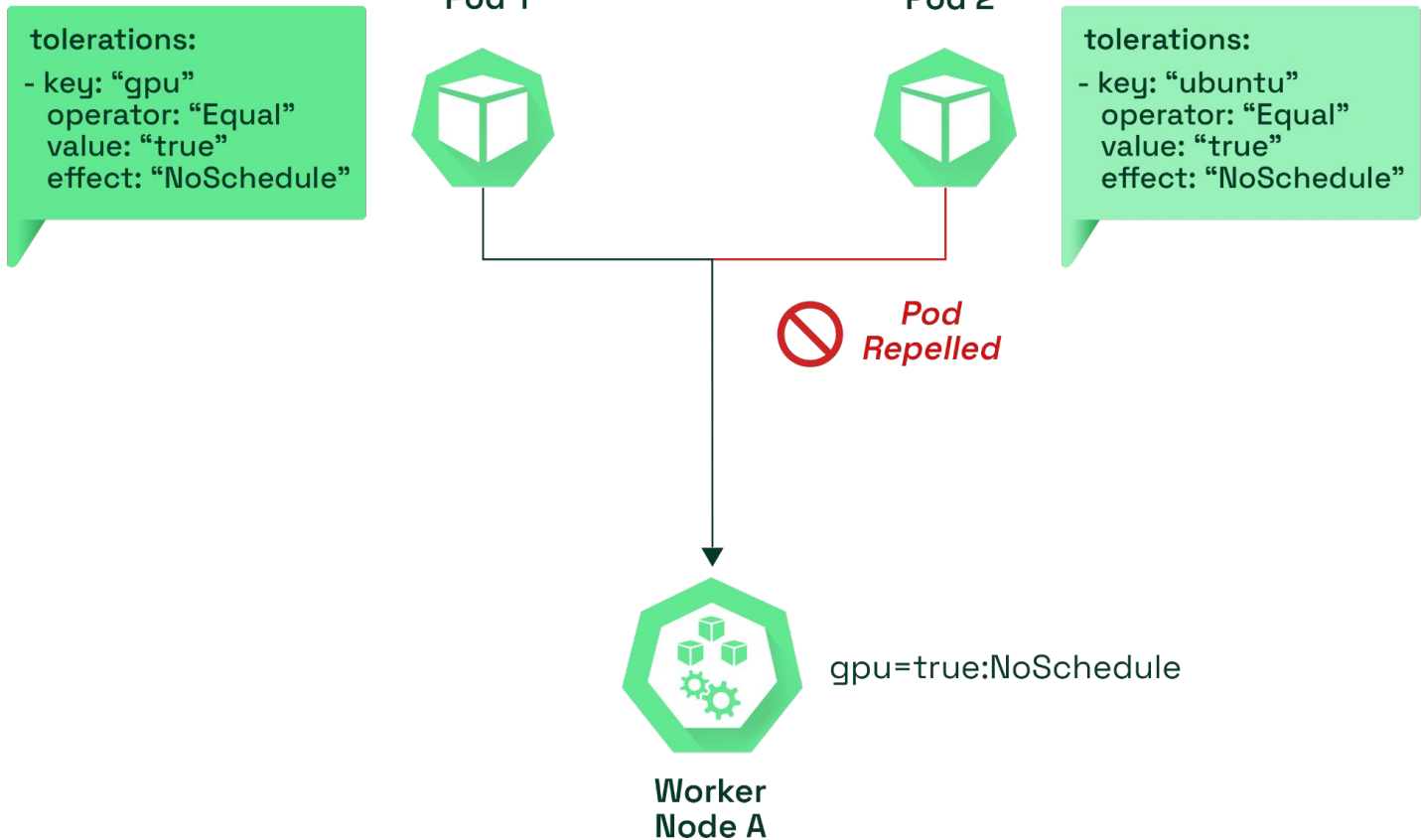
podAntiAffinity

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: redis-cache
spec:
  selector:
    matchLabels:
      app: store
  replicas: 3
  template:
    metadata:
      labels:
        app: store
    spec:
      affinity:
        podAntiAffinity:
          requiredDuringSchedulingIgnoredDuringExecution:
            - labelSelector:
                matchExpressions:
                  - key: app
                    operator: In
                    values:
                      - store
              topologyKey: "kubernetes.io/hostname"
      containers:
        - name: redis-server
          image: redis:3.2-alpine
```

node-1	node-2	node-3
webserver-1	webserver-2	webserver-3
cache-1	cache-2	cache-3



Assigning Pods to Nodes



Task



- Nginx Deployment with 3 Pods
- Service with internet connection (port: 30033)
- Create a configMap mounts “/special” folder and files under it in Pods.

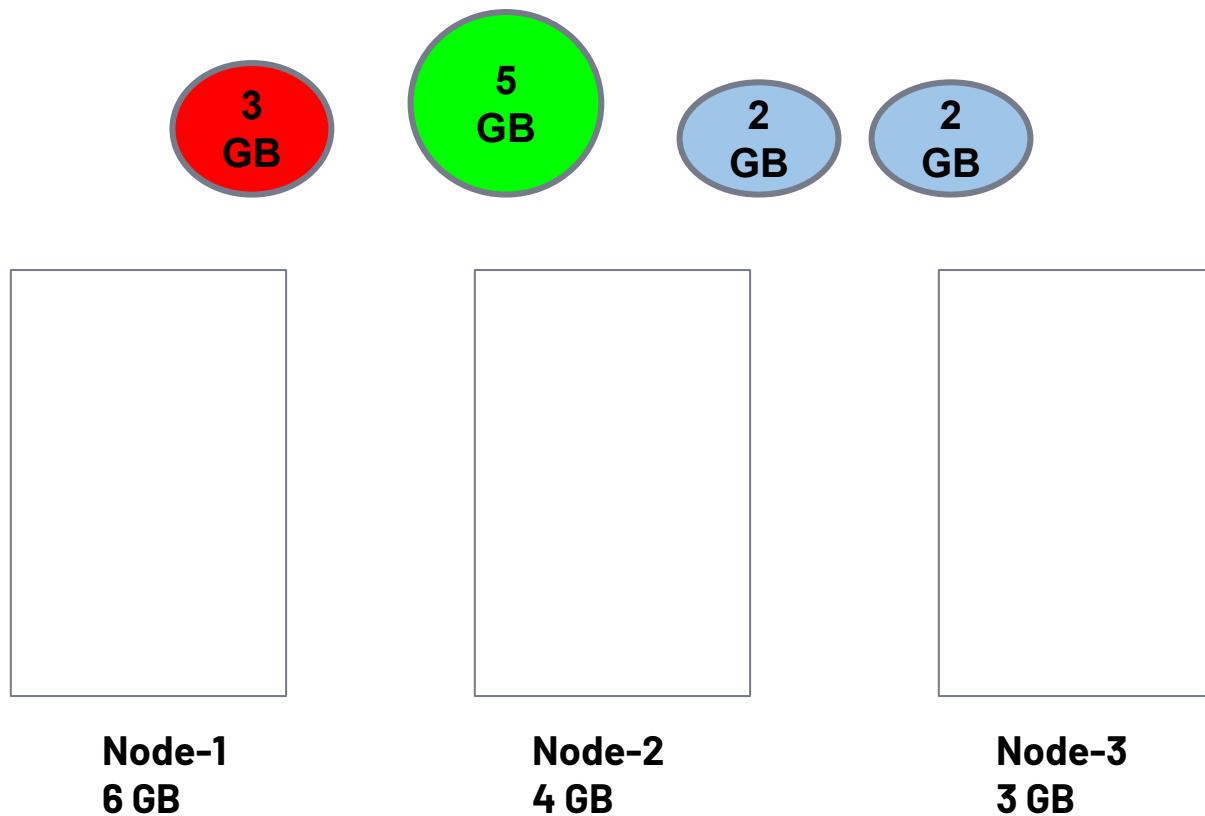


THANKS!

Any questions?



podAffinity



podAffinity

