Probes

Types of health checks

Kubernetes gives you two types of health checks, and it is important to understand the differences between the two, and their uses.

Readiness

Readiness probes are designed to let Kubernetes know when your app is ready to serve traffic. Kubernetes makes sure the readiness probe passes before allowing a service to send traffic to the pod. If a readiness probe starts to fail, Kubernetes stops sending traffic to the pod until it passes.

Liveness

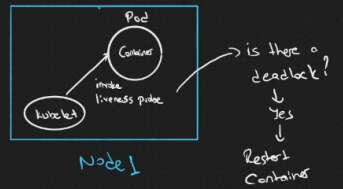
Liveness probes let Kubernetes know if your app is alive or dead. If you app is alive, then Kubernetes leaves it alone. If your app is dead, Kubernetes removes the Pod and starts a new one to replace it.

CONTAINER PROBES

A probe is a diagnostic performed periodically by the kubelet on a container. To perform a diagnostic, the kubelet either executes code within the container, or makes a network request

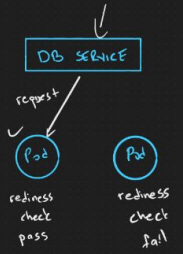
livenessProbe

Indicates whether the container is running. If the liveness probe fails, the kubelet kills the container, and the container is subjected to its restart policy.



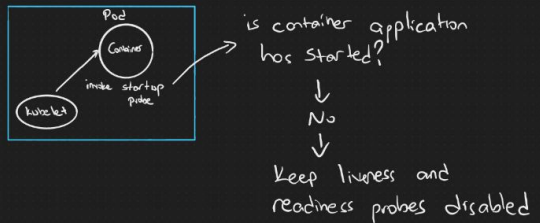
readinessProbe

Indicates whether the container is ready to respond to requests. If the readiness probe fails, the endpoints controller removes the Pod's IP address from the endpoints of all Services that match the Pod.



startupProbe

Indicates whether the application within the container is started. All other probes are disabled if a startup probe is provided, until it succeeds. If the startup probe fails, the kubelet kills the container, and the container is subjected to its restart policy.



httpGet

Performs an HTTP GET request against the Pod's IP address on a specified port and path. The diagnostic is considered successful if the response has a status code greater than or equal to 200 and less than 400.

exec

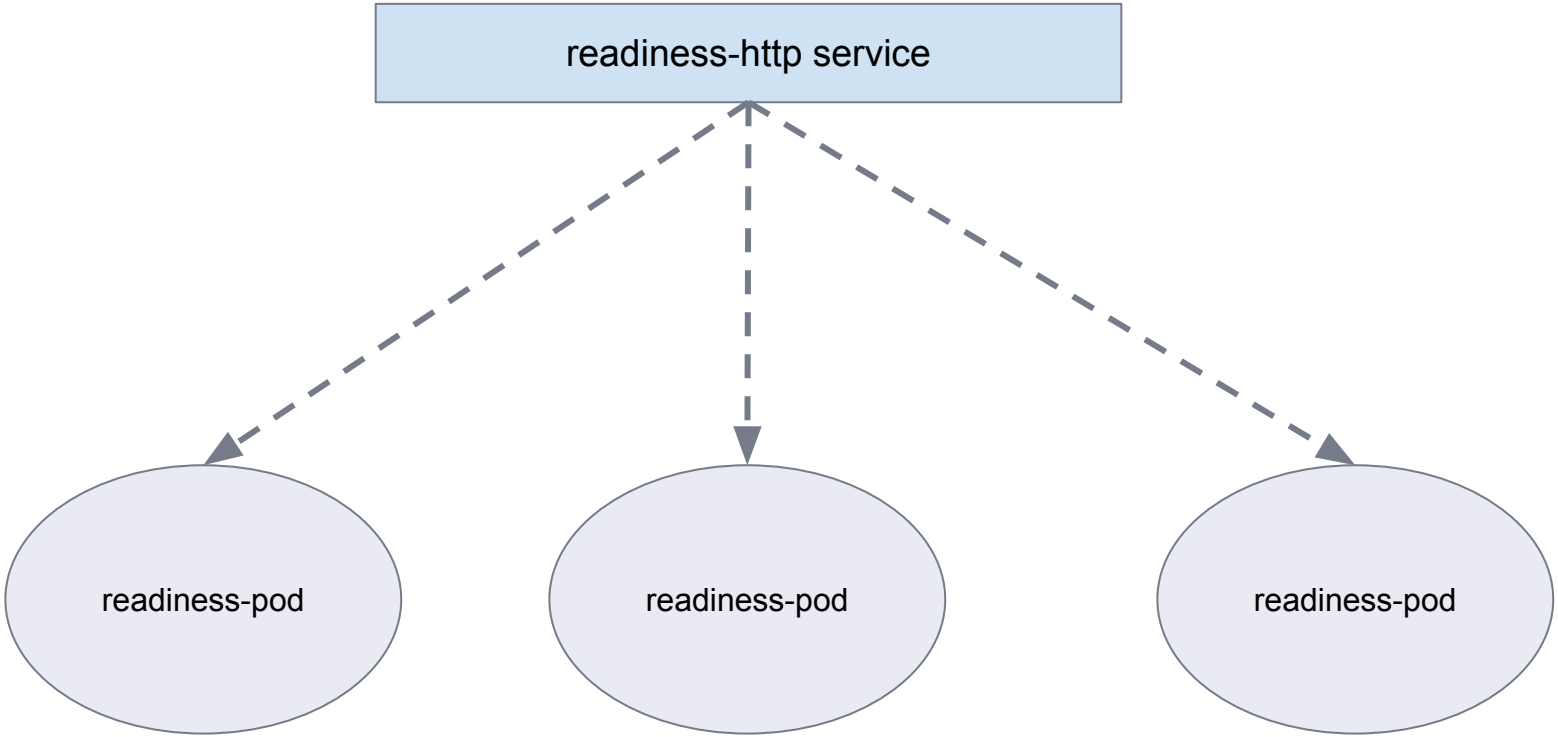
Executes a specified command inside the container. The diagnostic is considered successful if the command exits with a status code of 0.

tcpSocket

Performs a TCP check against the Pod's IP address on a specified port. The diagnostic is considered successful if the port is open.

readinessProbe

readinessProbe



Pod Scheduling

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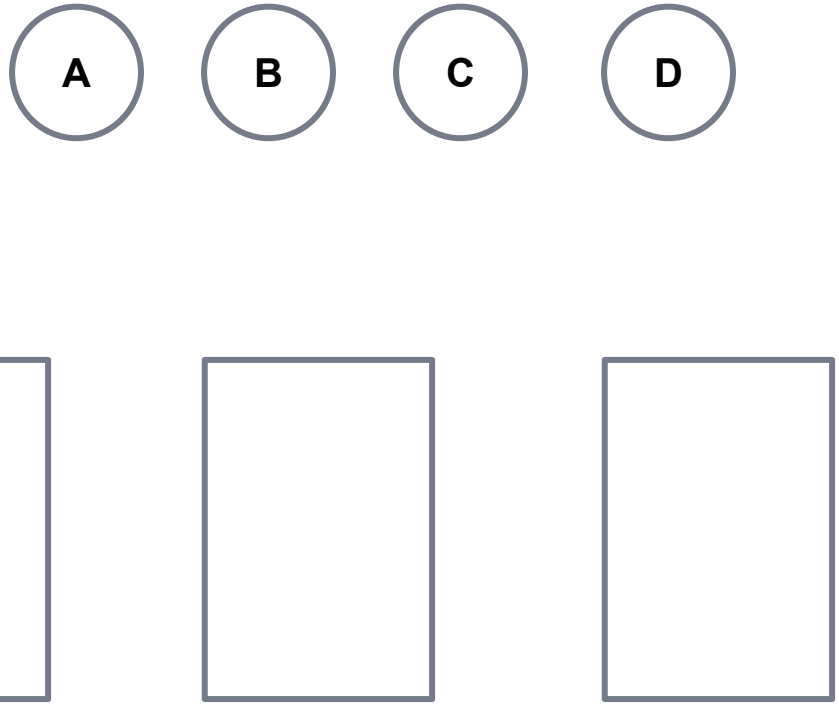

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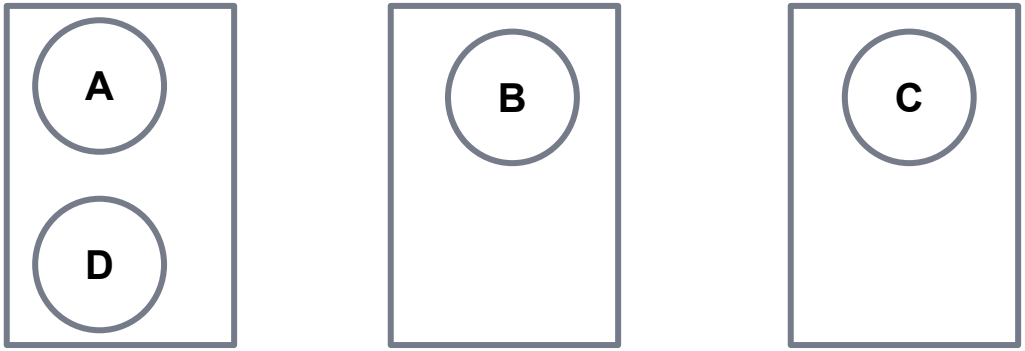

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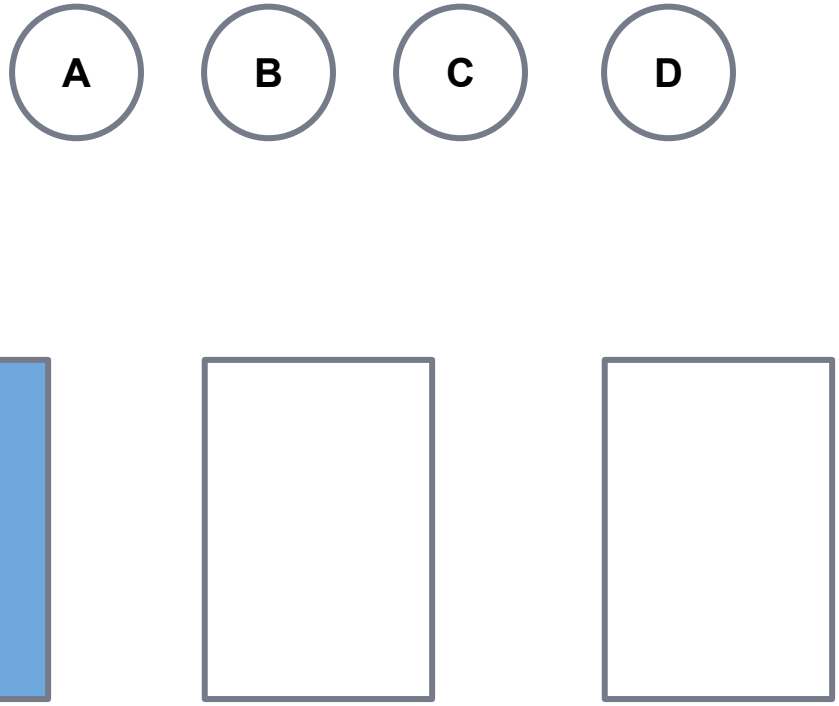

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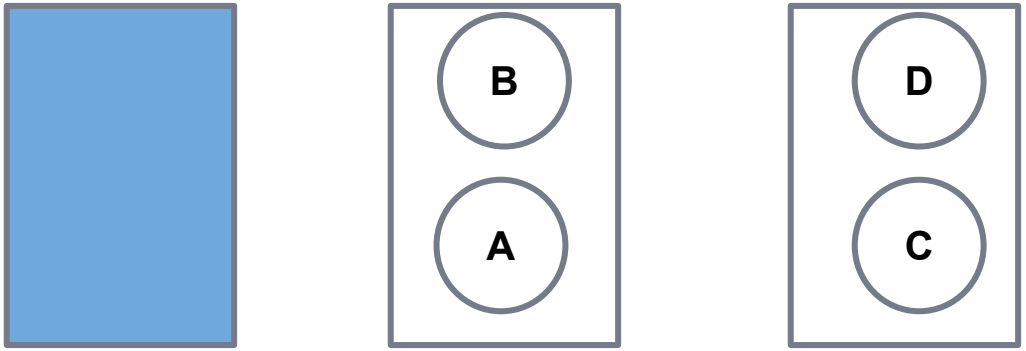

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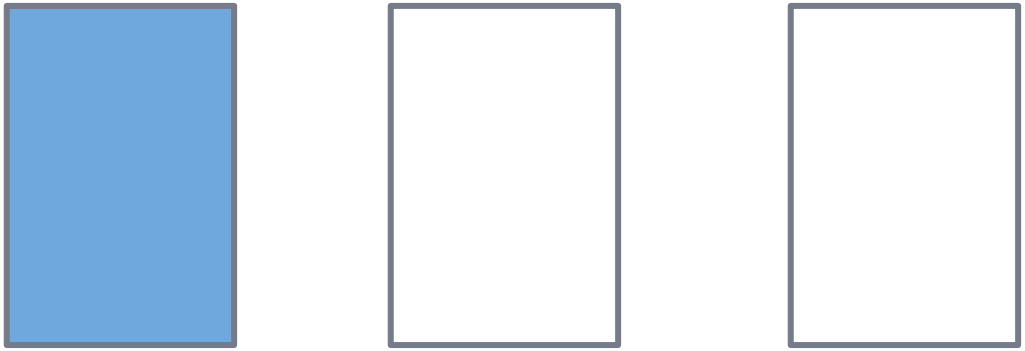
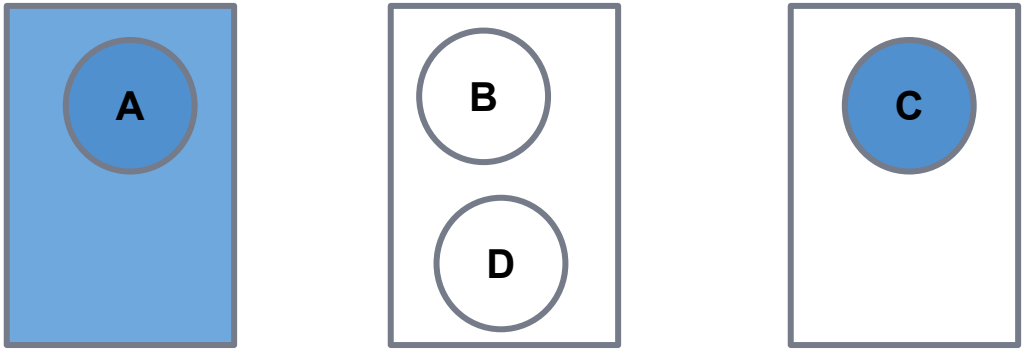


Node-1 Node-2 Node-3

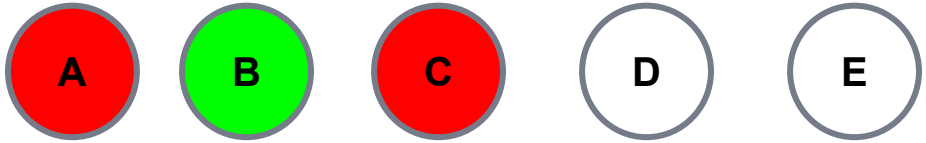
Taints and Tolerations

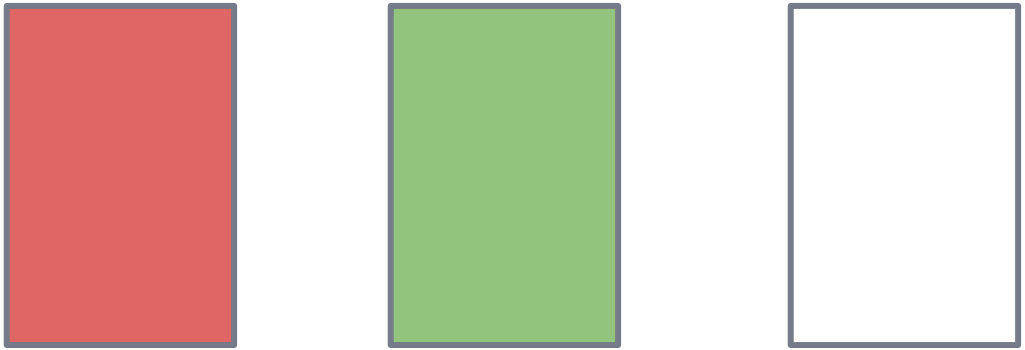


2

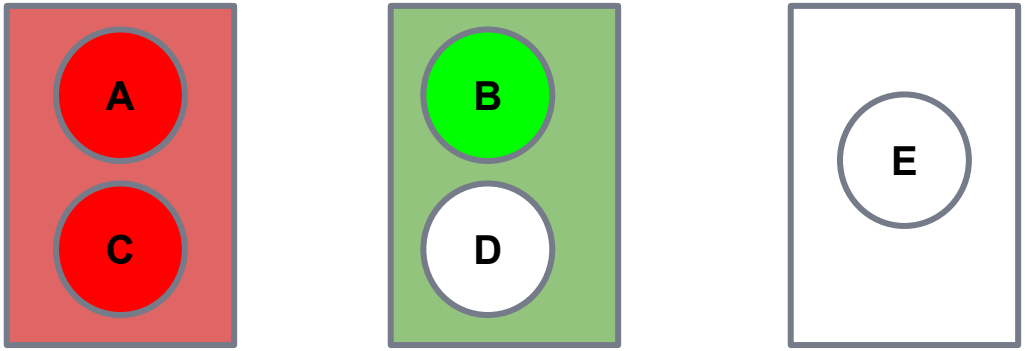
nodeSelector and Node Affinity

nodeSelector and Node Affinity





nodeSelector and Node Affinity



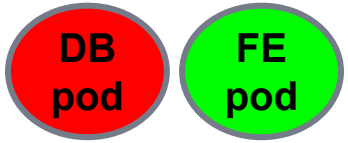
THANKS!

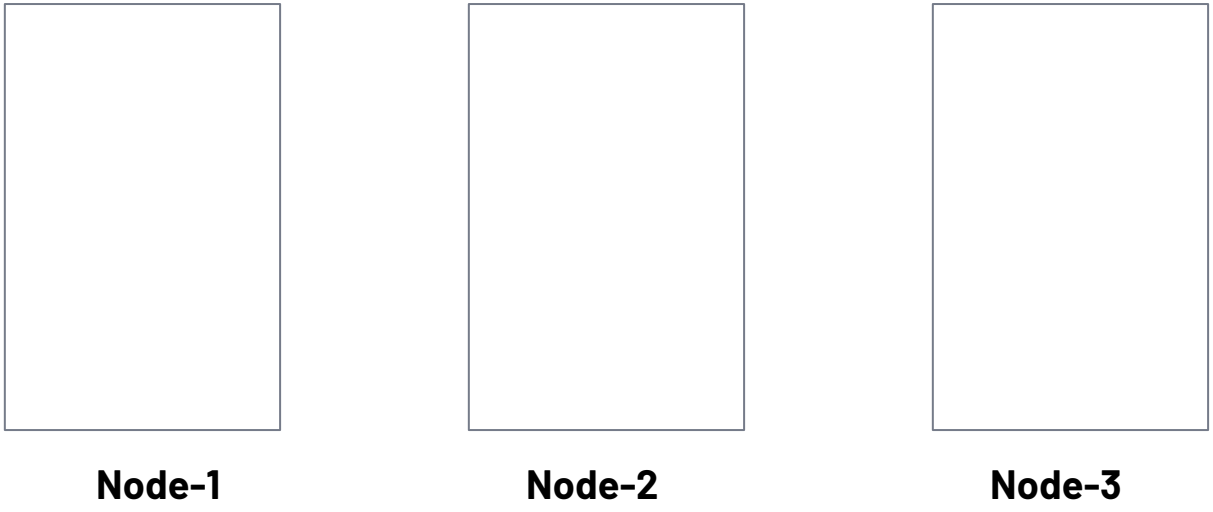
Any questions?

2

podAffinity

podAffinity





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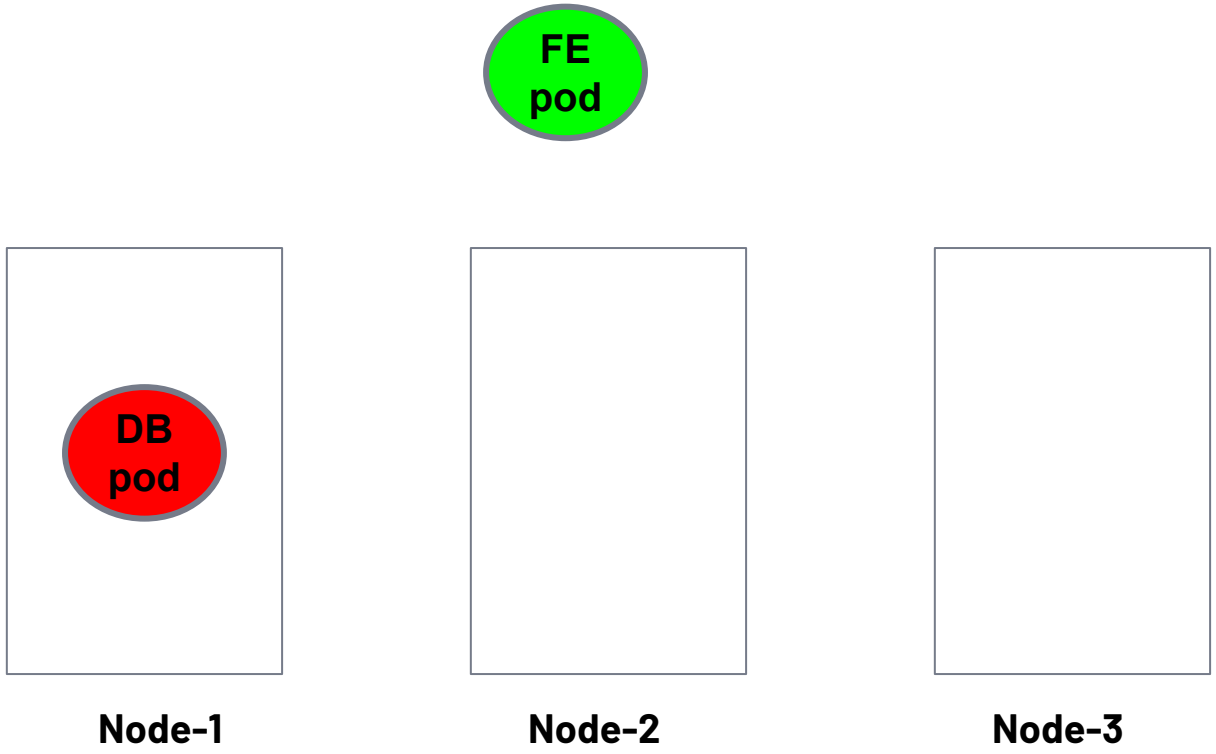

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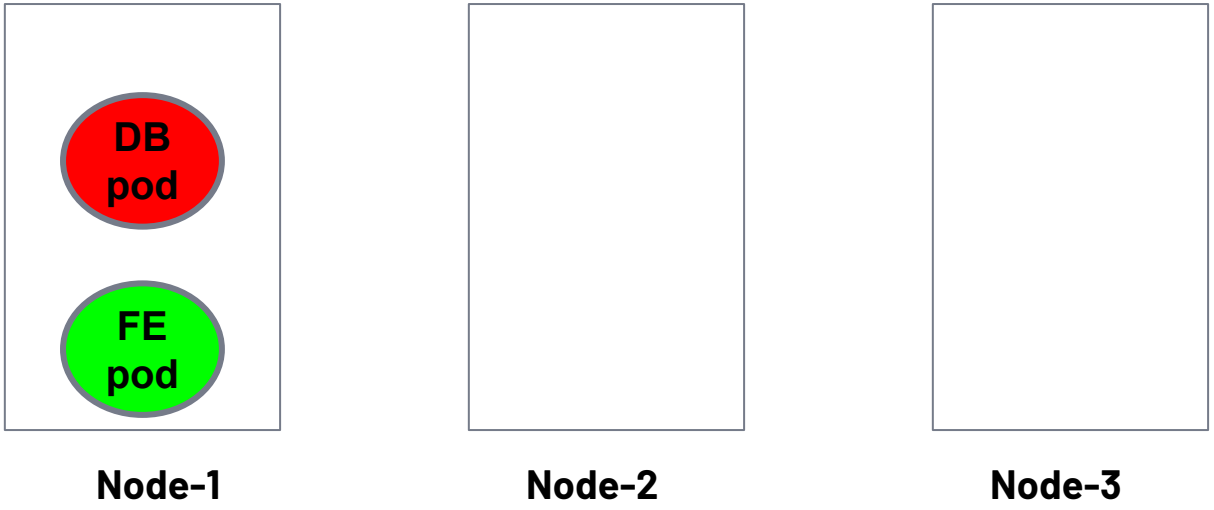

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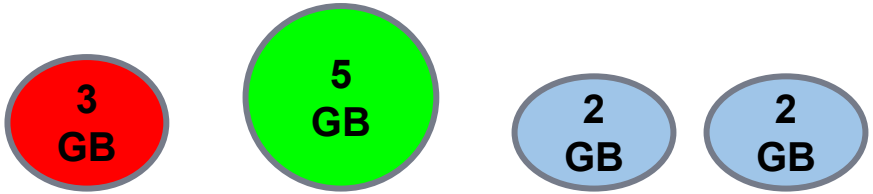

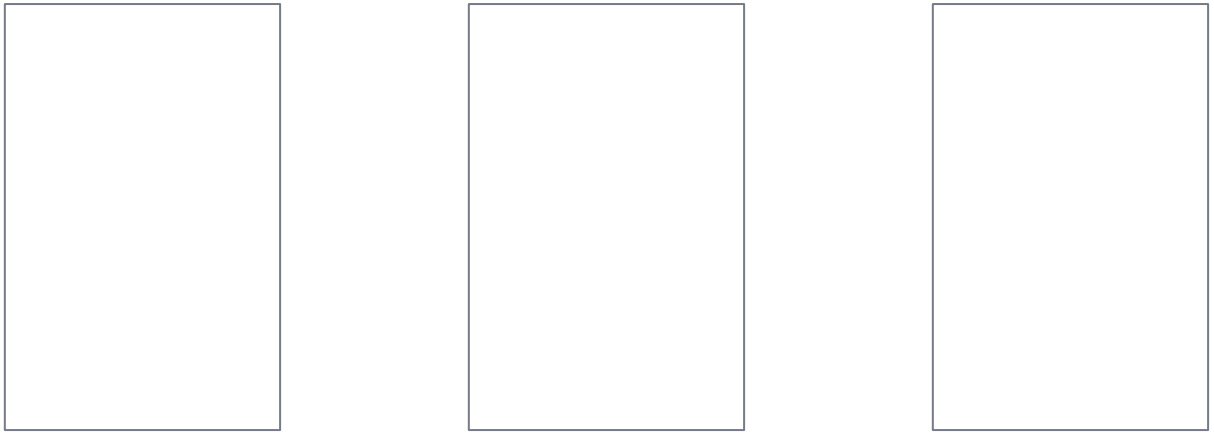

Node-1
6 GB

Node-2
4 GB

Node-3
3 GB

podAffinity