Multi-Cluster is Easier Than You Think with Linkerd and Ambassador

LINKERD + AMBASSADOR

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Software Engineer @ Buoyant

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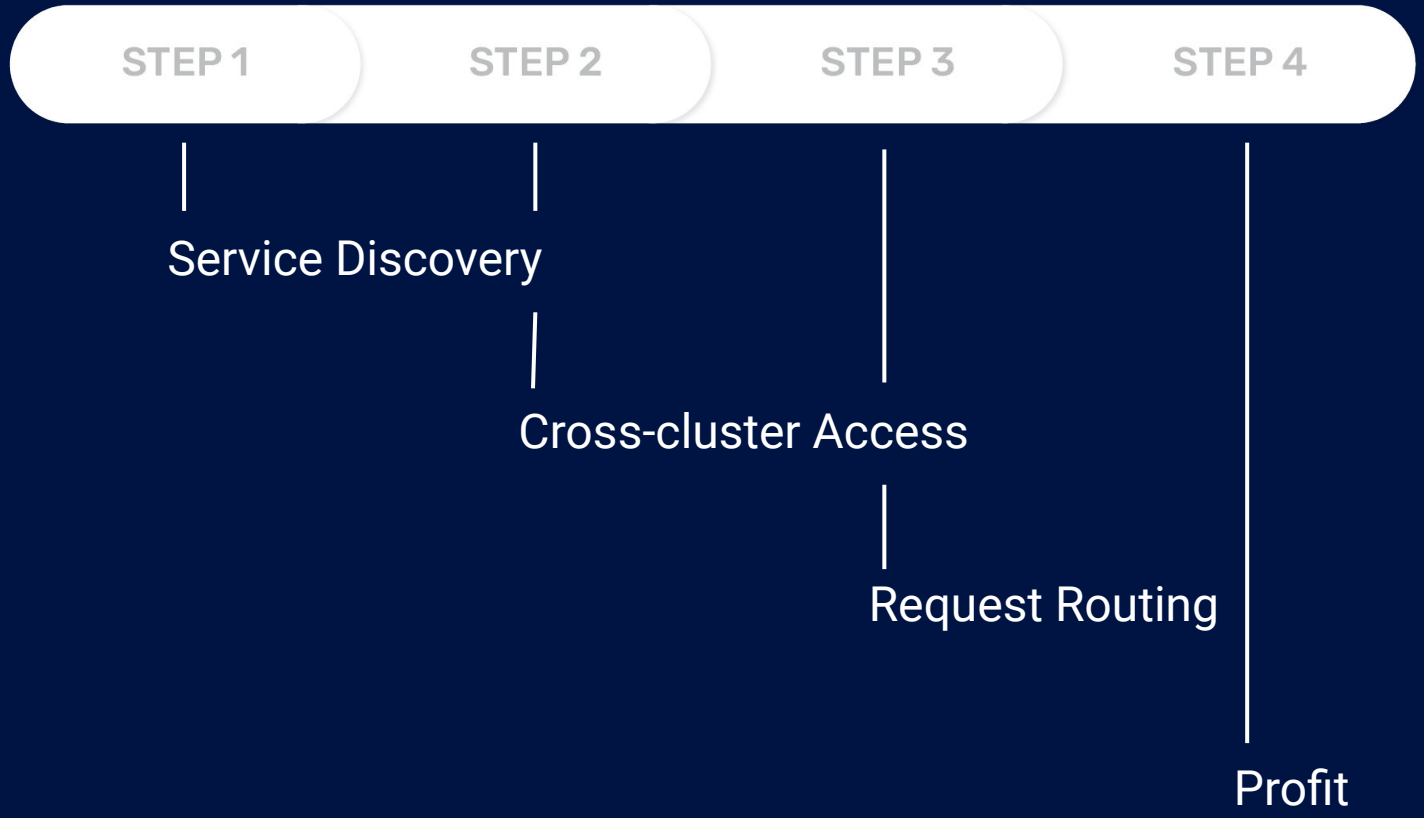
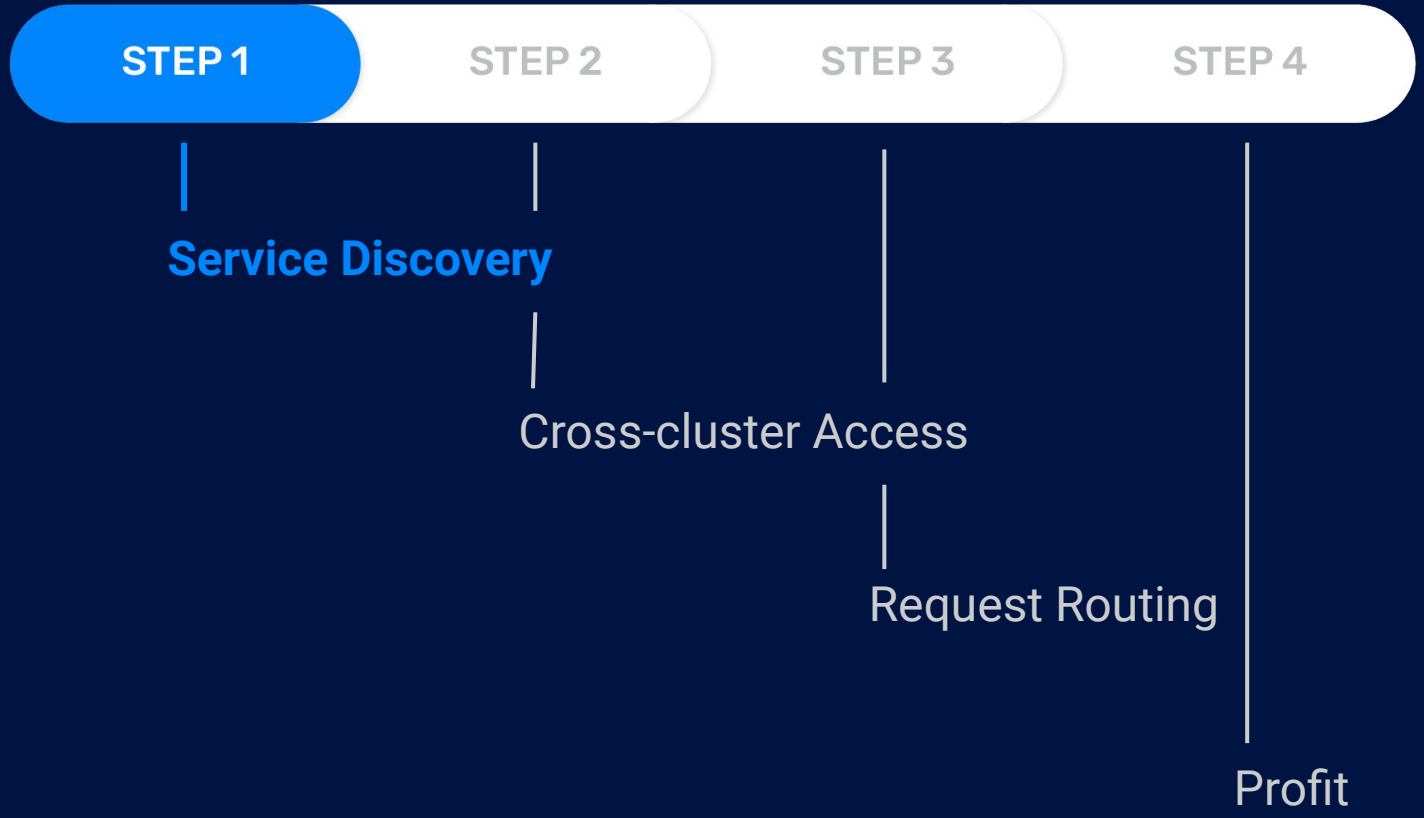
AMBASSADOR

LINKERD

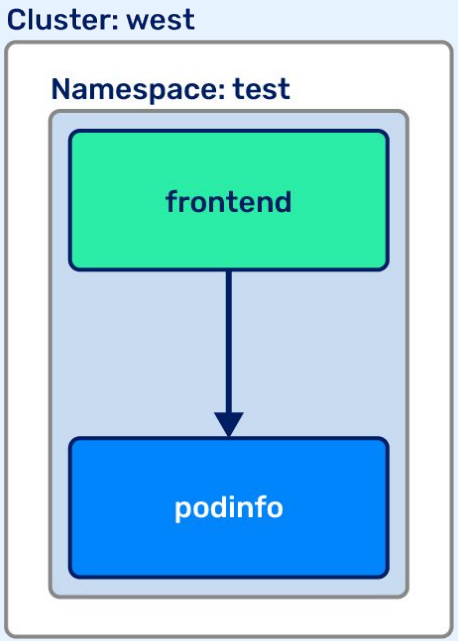
Multi-cluster the easy way

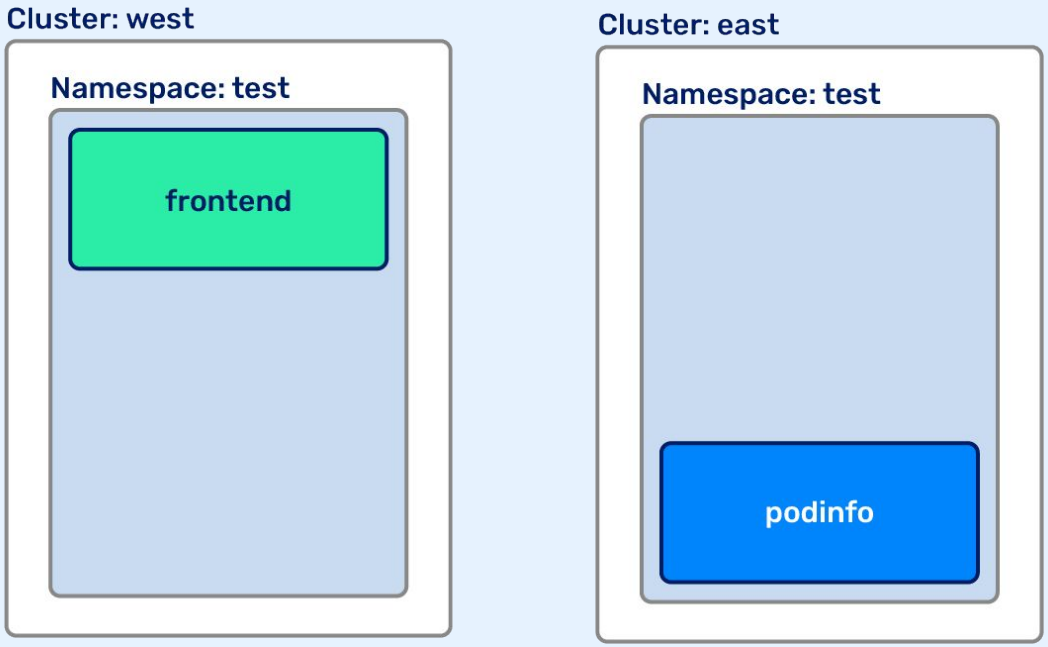



STEP 1
STEP 2
STEP 3
STEP 4
Service Discovery
Cross-cluster Access
Request Routing
Profit

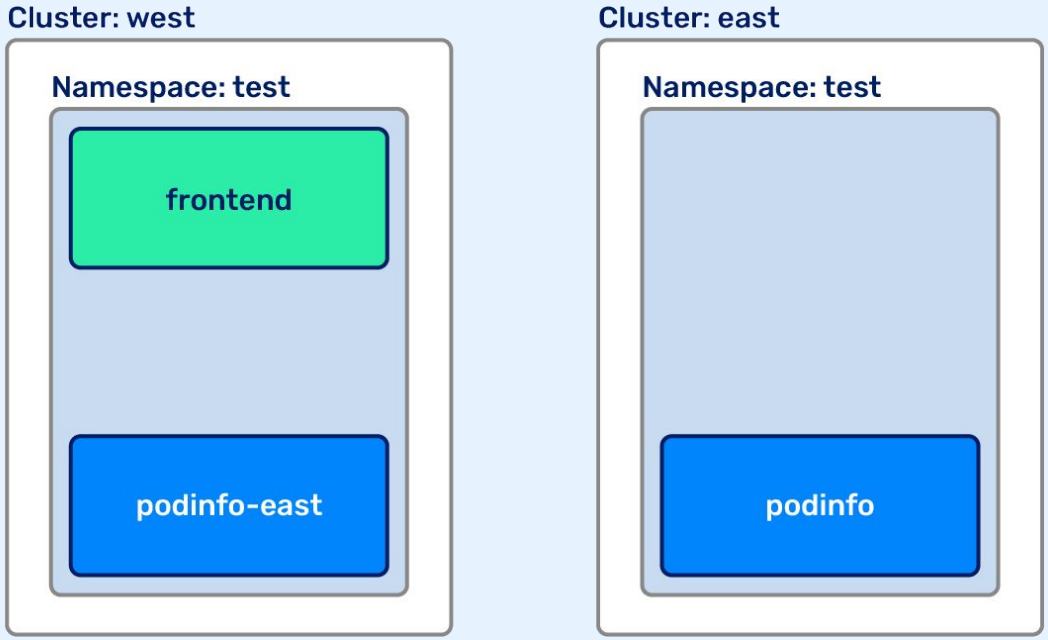
podinfo.test.svc.cluster.local

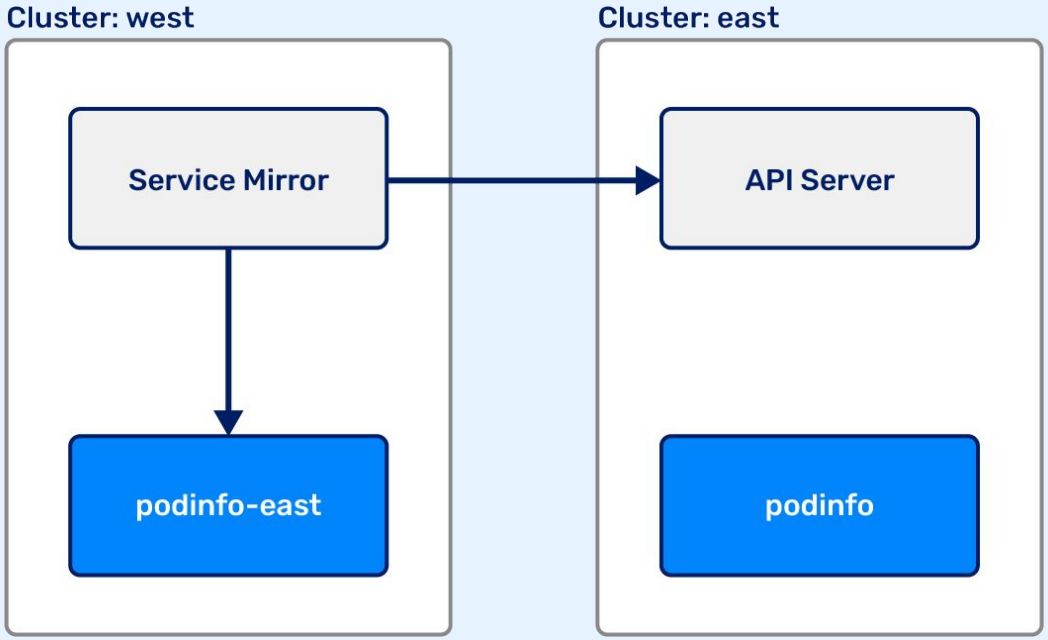
```yaml
apiVersion: v1
kind: Service
metadata:
  name: podinfo
  namespace: test
spec:
  clusterIP: 10.7.250.172
  ports:
  - name: http
    port: 9898
    protocol: TCP
    targetPort: http
  selector:
    app: podinfo
```

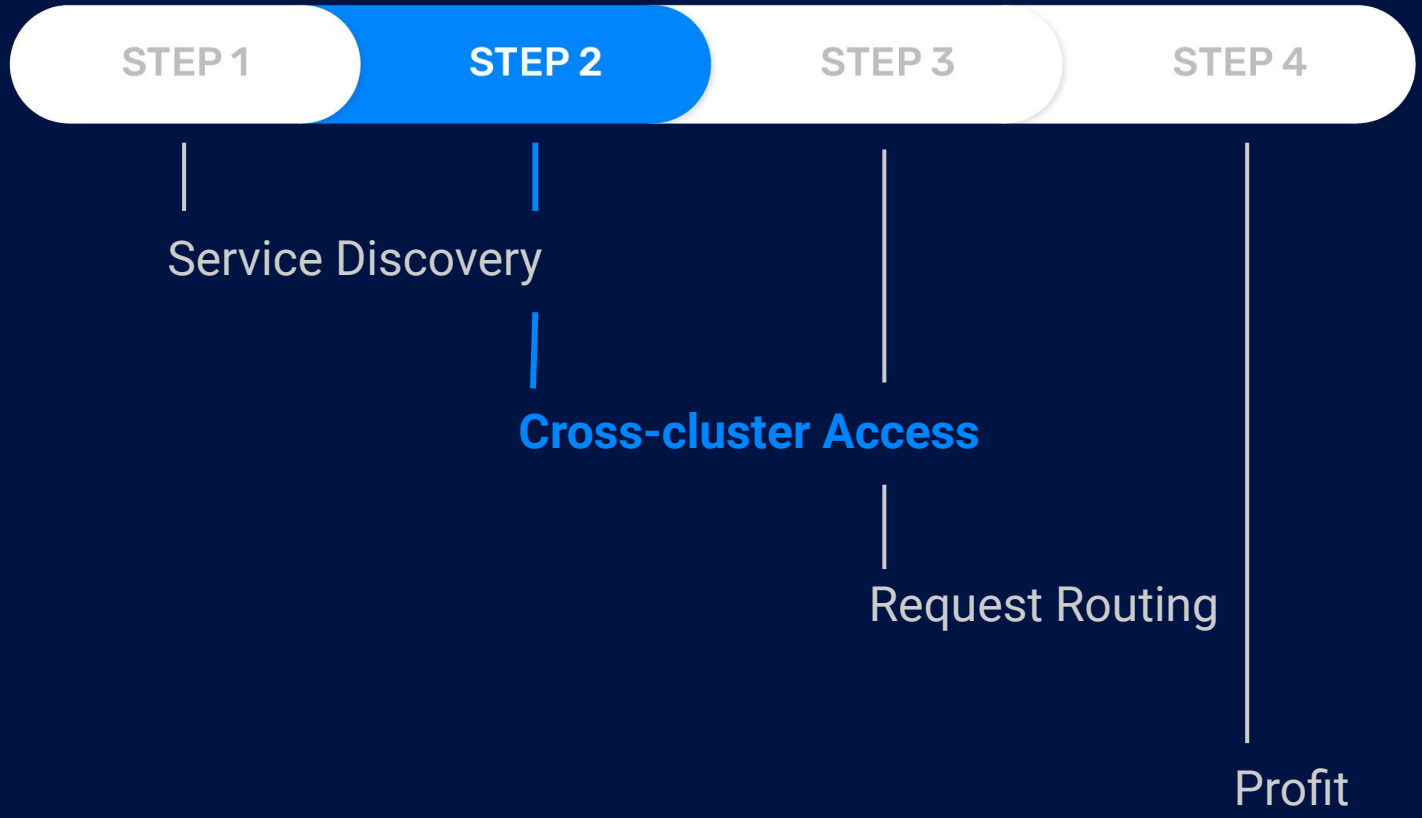



Cluster: west
Namespace: test
frontend
Cluster: east
Namespace: test
podinfo

```
kubectl --context=east -n test get svc podinfo -o yaml | \
    kubectl --context=west apply -f -
```




Cluster: west
Service Mirror
podinfo-east
Cluster: east
API Server
podinfo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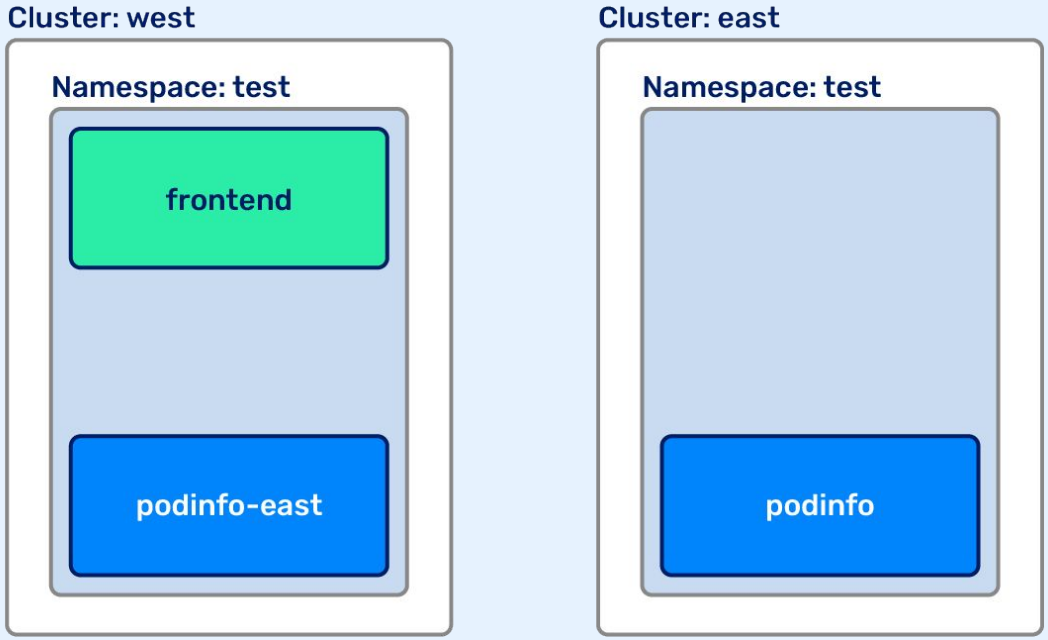
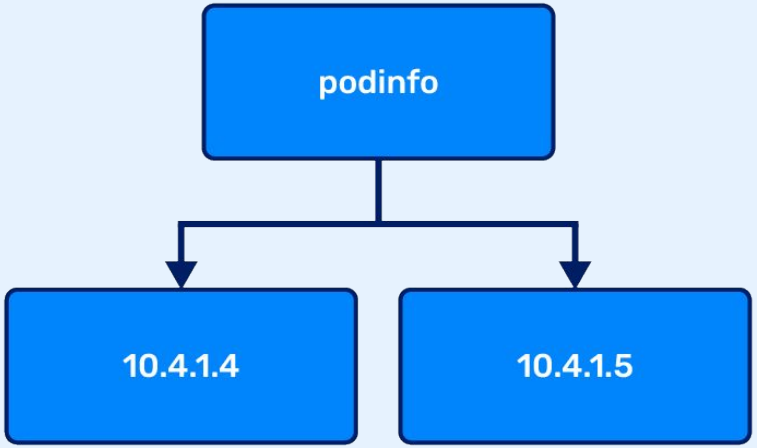
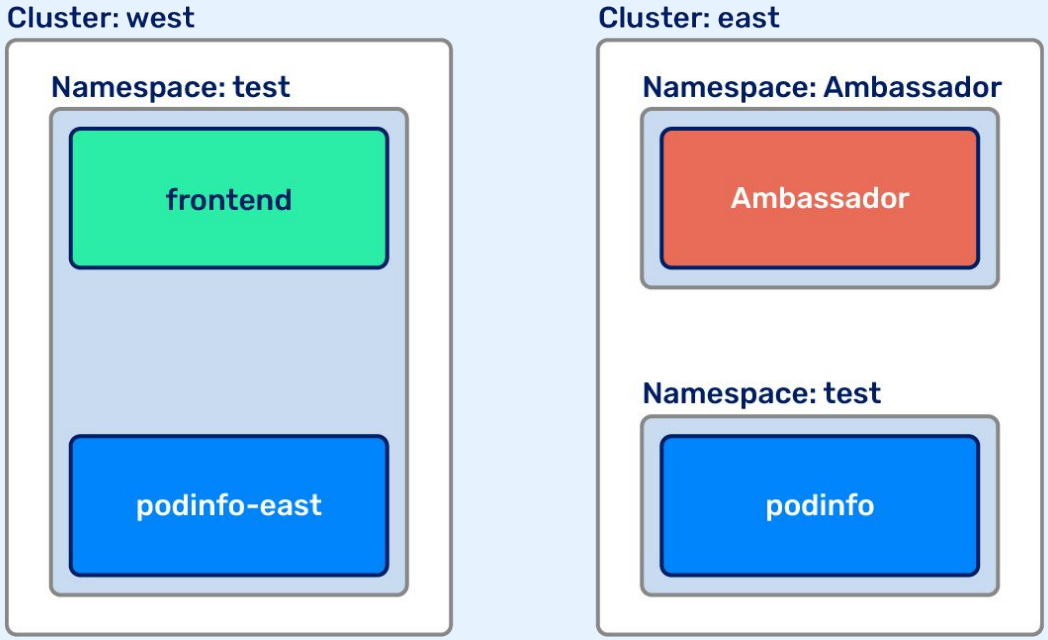
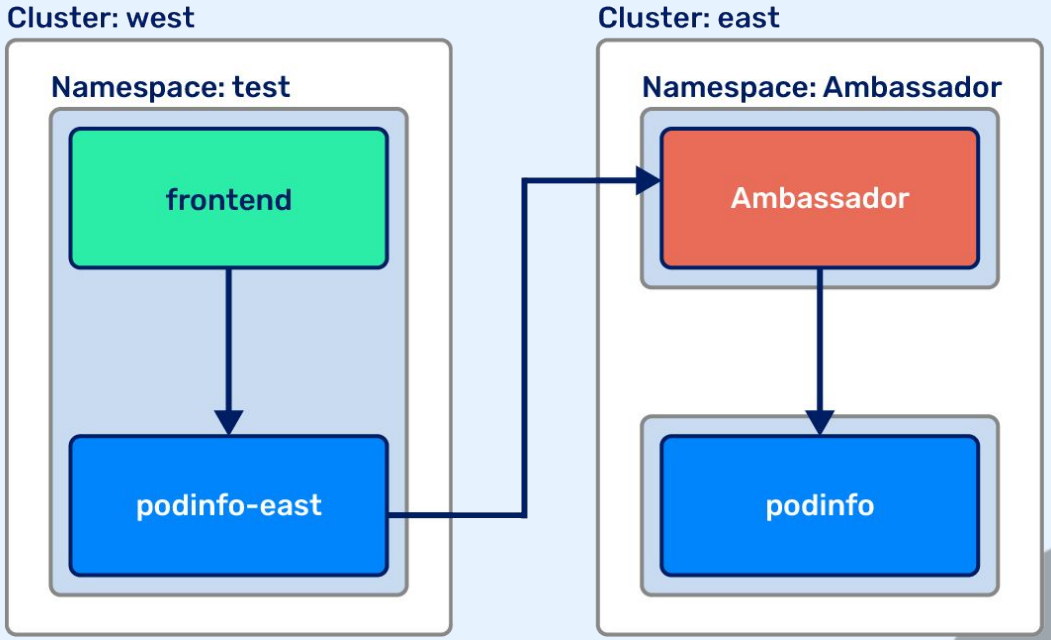

Cluster: west
Namespace: test
frontend
podinfo-east
Cluster: east
Namespace: test
podinfo

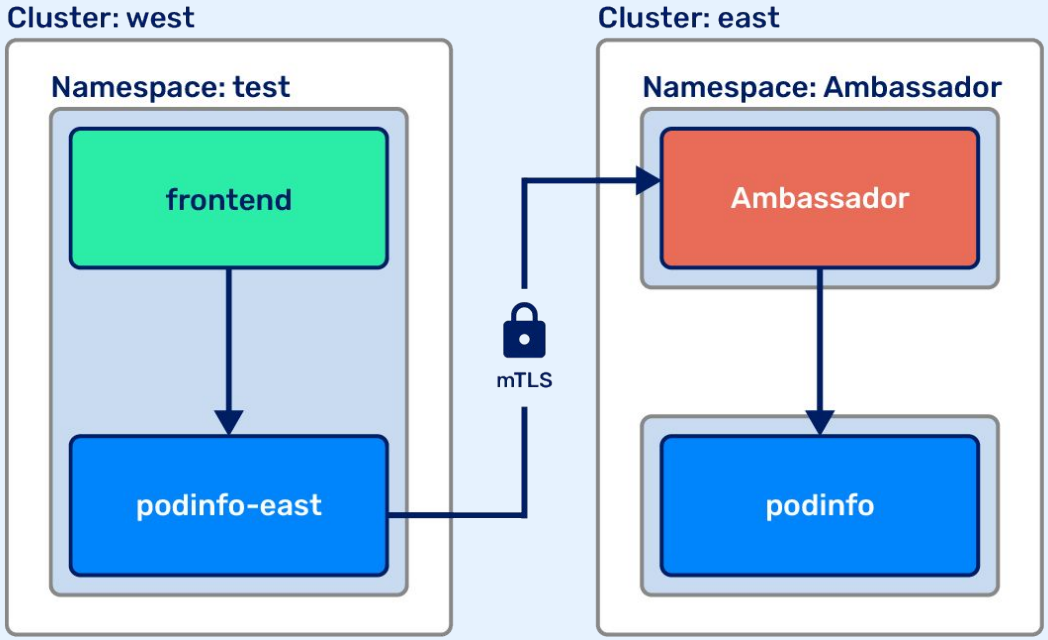
```yaml
apiVersion: v1
kind: Endpoints
metadata:
  name: podinfo
  namespace: test
subsets:
- addresses:
  - ip: 10.4.1.4
  - ip: 10.4.1.5
```

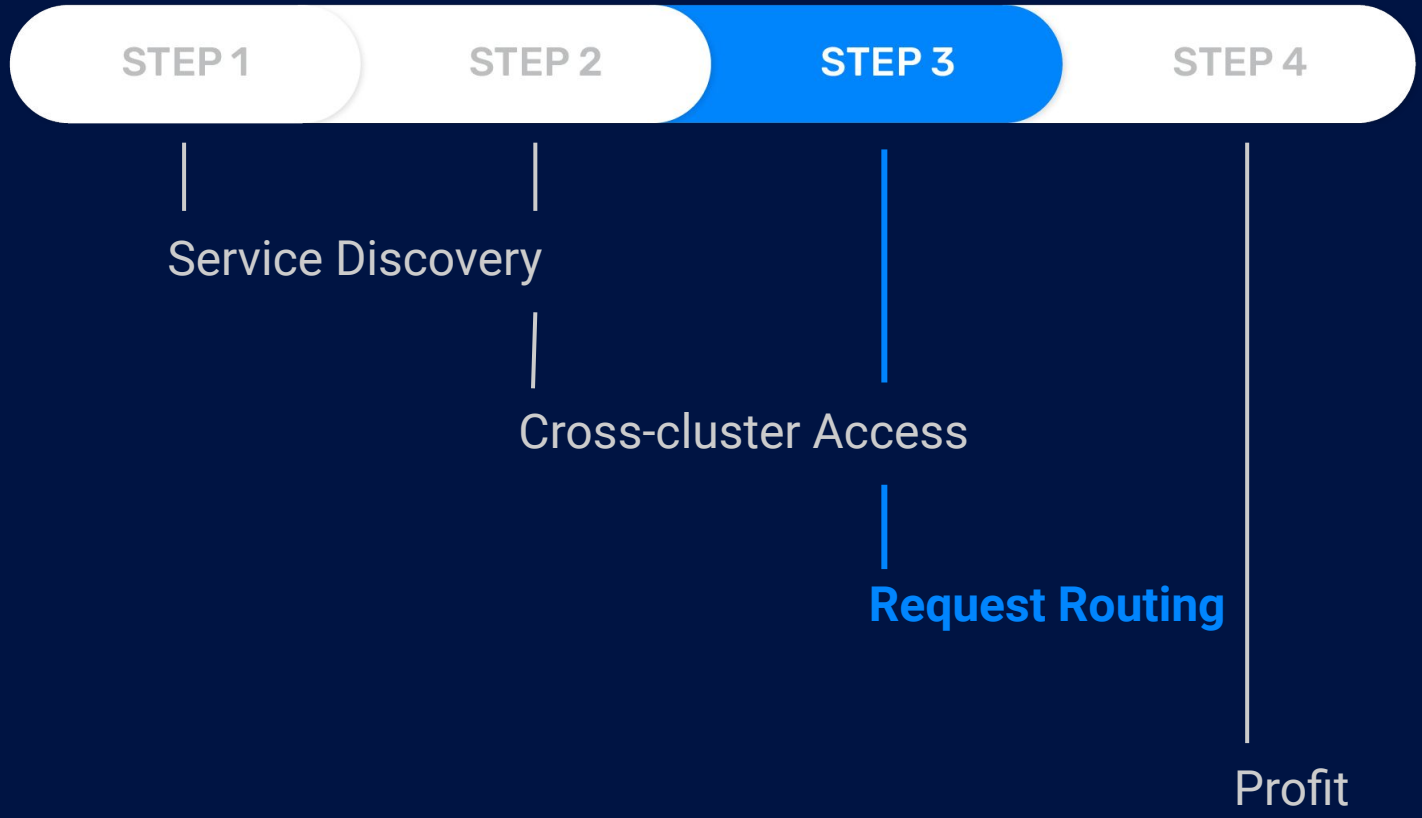



Cluster: west
Namespace: test
frontend
podinfo-east
Cluster: east
Namespace: Ambassador
Ambassador
Namespace: test
podinfo

```yaml
apiVersion: v1
kind: Endpoints
metadata:
  name: podinfo-east
  namespace: test
subsets:
- addresses:
  - ip: 1.1.1.1
```




Cluster: west
Namespace: test
frontend
podinfo-east
mTLS
Cluster: east
Namespace: Ambassador
Ambassador
podinfo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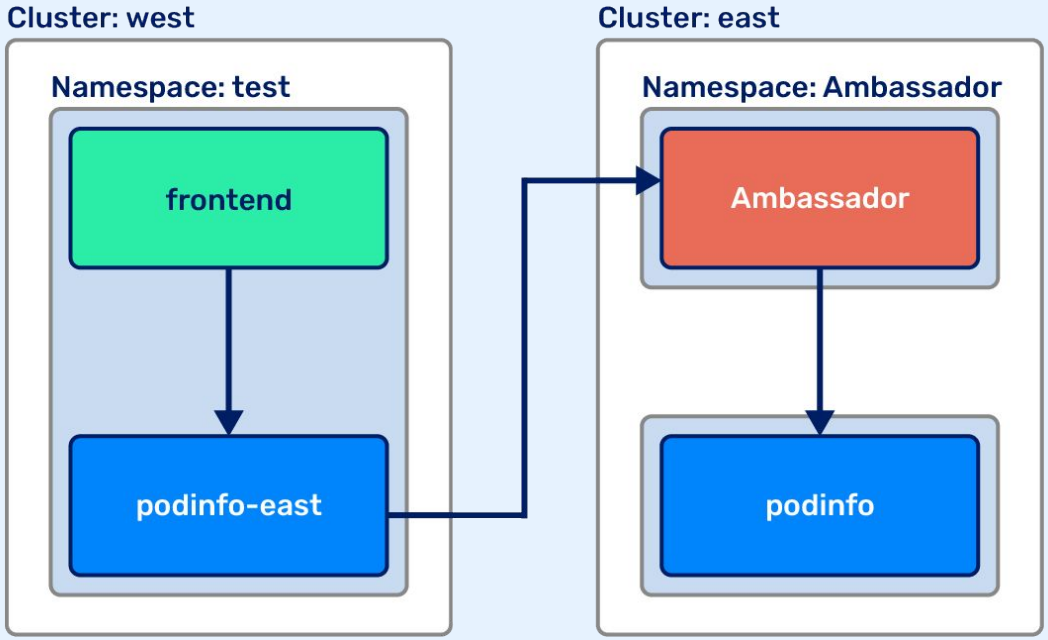
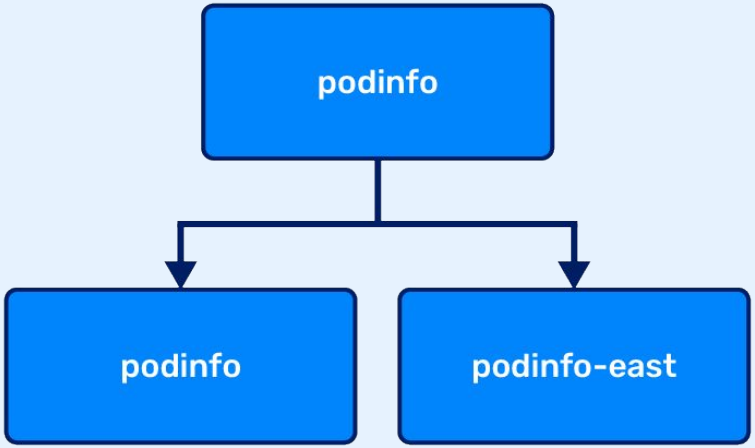
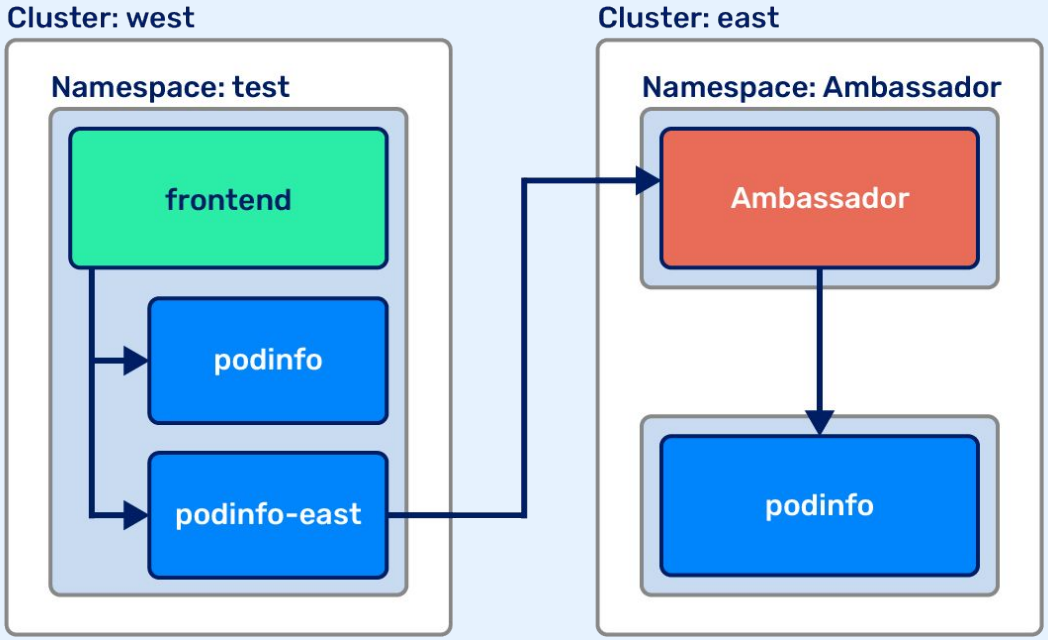
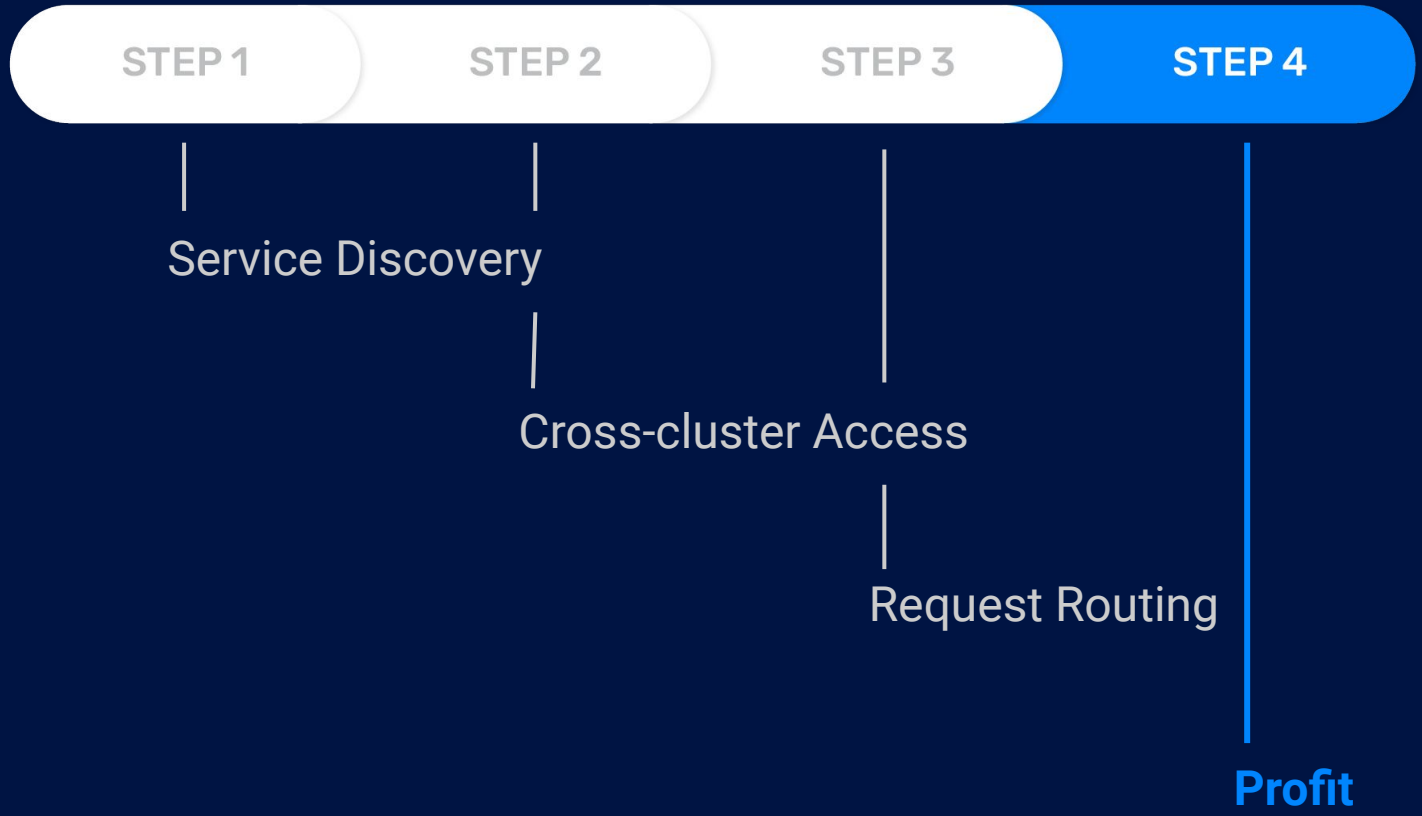

Cluster: west
Namespace: test
frontend
podinfo-east
Cluster: east
Namespace: Ambassador
Ambassador
podinfo

```yaml
apiVersion: split.smi-spec.io/v1alpha1
kind: TrafficSplit
metadata:
  name: podinfo
  namespace: test
spec:
  service: podinfo
  backends:
  - service: podinfo
    weight: 50
  - service: podinfo-east
    weight: 50
```




Cluster: west
Namespace: test
frontend
podinfo
podinfo-east
Cluster: east
Namespace: Ambassador
Ambassador
podinfo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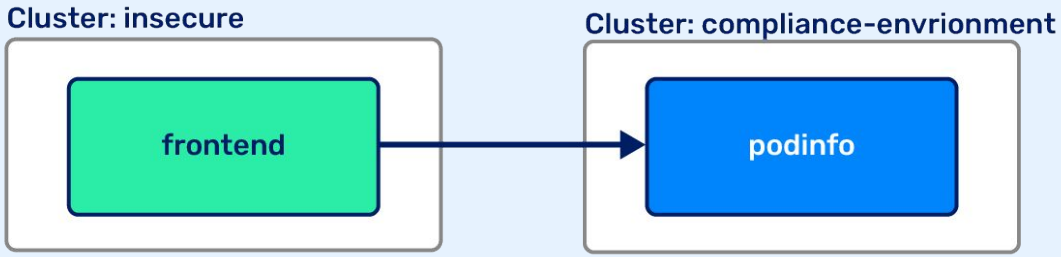
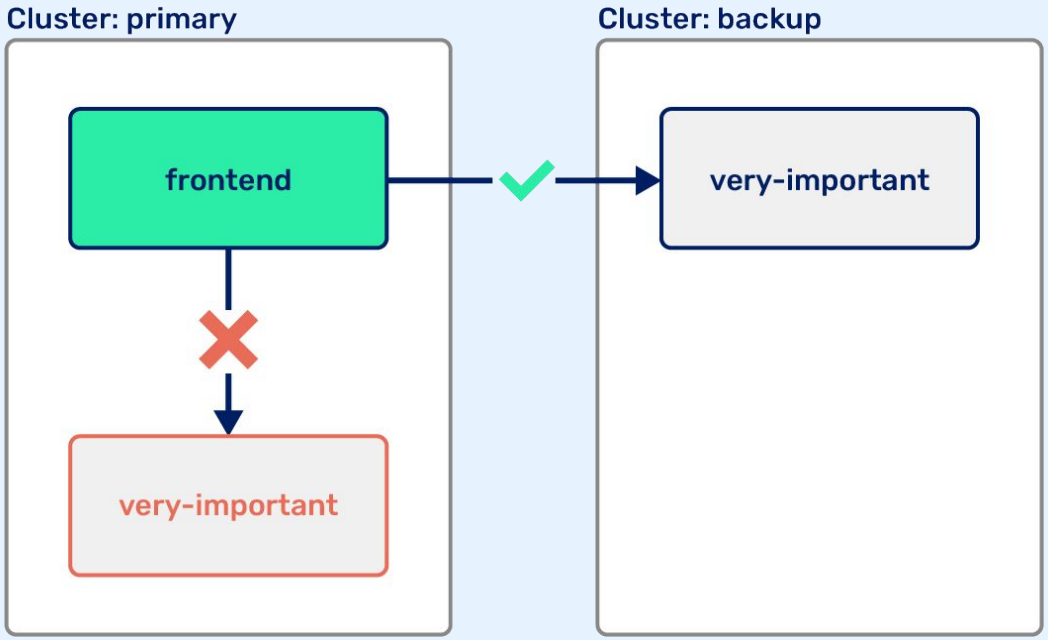
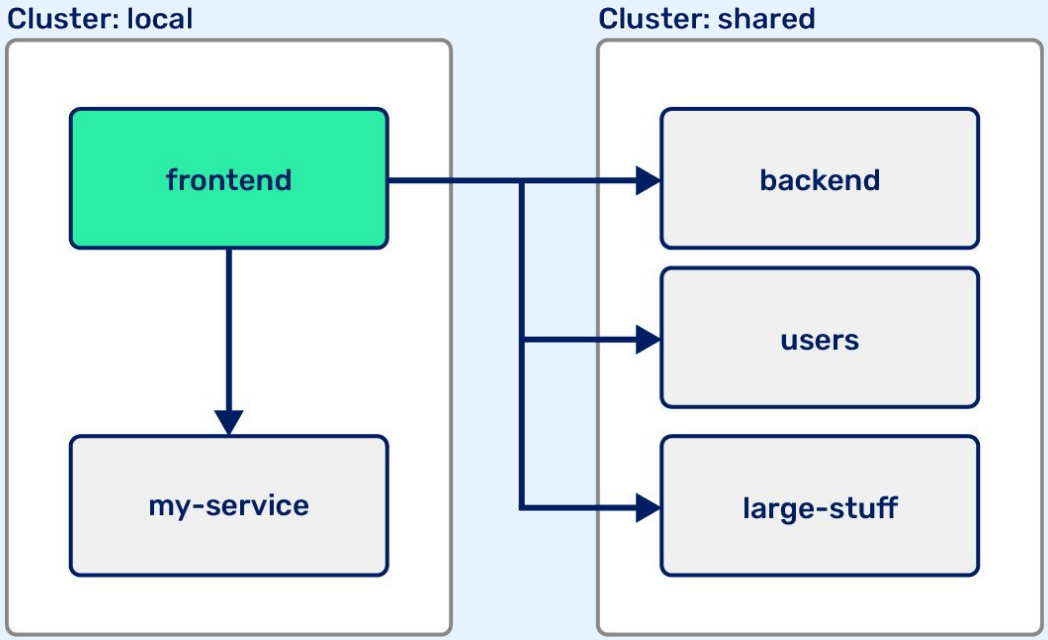
Cluster Isolation



Disaster Recovery



Development



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