

ISTIO Traffic Shifting (Lab 6)
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1. Install Gateway API CRDS

```
Darigan@Cocoon MINGW64 ~  
$ kubectl kustomize "github.com/kubernetes-sigs/gateway-api/config/crd/experimental?ref=444631bfe06f3bcca5d0eadf1857eac1d369421d" | kubectl apply -f -  
customresourcedefinition.apiextensions.k8s.io/gatewayclasses.gateway.networking.k8s.io created  
customresourcedefinition.apiextensions.k8s.io/gateways.gateway.networking.k8s.io created  
customresourcedefinition.apiextensions.k8s.io/grpcroutes.gateway.networking.k8s.io created  
customresourcedefinition.apiextensions.k8s.io/httproutes.gateway.networking.k8s.io created  
customresourcedefinition.apiextensions.k8s.io/referencegrants.gateway.networking.k8s.io created  
customresourcedefinition.apiextensions.k8s.io/tcproutes.gateway.networking.k8s.io created  
customresourcedefinition.apiextensions.k8s.io/tlsroutes.gateway.networking.k8s.io created  
customresourcedefinition.apiextensions.k8s.io/udproutes.gateway.networking.k8s.io created  
Darigan@Cocoon MINGW64 ~
```

2. Configure Istio to read the alpha Gateway API resources by setting the `PILOT_ENABLE_ALPHA_GATEWAY_API` environment variable to `true` when installing Istio:

```
C:\Users\Darigan\Projects\cloudwork\istio-1.21.2-win\istio-1.21.2\bin>istioctl install --set values.pilot.env.PILOT_ENABLE_ALPHA_GATEWAY_API=true --set profile=minimal -y  
✓Istio core installed  
✓Istiod installed  
✓Installation complete  
r injection and validation. Made this installation the default for this cluster
```

3. Define Service versions

```
Darigan@Cocoon MINGW64 ~/Projects/cloudwork/istio-1.21.2-win/istio-1.21.2  
$ kubectl apply -f samples/bookinfo/networking/destination-rule-all.yaml  
destinationrule.networking.istio.io/productpage created  
destinationrule.networking.istio.io/reviews created  
destinationrule.networking.istio.io/ratings created  
destinationrule.networking.istio.io/details created
```

4. Route all traffic to v1

```
C:\Users\Darigan\Projects\cloudwork\istio-1.21.2-win\istio-1.21.2>kubectl apply -f samples/bookinfo/networking/virtual-service-all-v1.yaml  
virtualservice.networking.istio.io/productpage created  
virtualservice.networking.istio.io/reviews created  
virtualservice.networking.istio.io/ratings created  
virtualservice.networking.istio.io/details created
```

5. Route 50% of traffic from v1 to v3

```
C:\Users\Darigan\Projects\cloudwork\istio-1.21.2-win\istio-1.21.2>kubectl apply -f samples/bookinfo/networking/virtual-service-reviews-50-v3.yaml  
virtualservice.networking.istio.io/reviews configured
```

6. Confirm rules changed

```
C:\Users\Darigan\Projects\cloudwork\istio-1.21.2-win\istio-1.21.2>kubectl get virtualservice reviews -o yaml
apiVersion: networking.istio.io/v1beta1
kind: VirtualService
metadata:
  annotations:
    kubectl.kubernetes.io/last-applied-configuration: |
      {"apiVersion":"networking.istio.io/v1alpha3","kind":"VirtualService","metadata":{"annotations":{},"name":"reviews",
"namespace":"default"},"spec":{"hosts":["reviews"],"http":[{"route":[{"destination":{"host":"reviews","subset":"v1"},"w
eight":50},{"destination":{"host":"reviews","subset":"v3"},"weight":50}]}]}
      creationTimestamp: "2024-05-04T23:47:50Z"
      generation: 2
      name: reviews
      namespace: default
      resourceVersion: "1666"
      uid: e28907b4-42d3-488e-9678-58387322c2ac
spec:
  hosts:
  - reviews
  http:
  - route:
    - destination:
        host: reviews
        subset: v1
        weight: 50
    - destination:
        host: reviews
        subset: v3
        weight: 50
```

7. Checking pages (stars on some and not others)

Book Reviews

An extremely entertaining play by Shakespeare. The slapstick humour is refreshing!

— Reviewer1



Absolutely fun and entertaining. The play lacks thematic depth when compared to other plays by Shakespeare.

— Reviewer2



Book Reviews

An extremely entertaining play by Shakespeare. The slapstick humour is refreshing!

— Reviewer1

Absolutely fun and entertaining. The play lacks thematic depth when compared to other plays by Shakespeare.

— Reviewer2

7. Route all traffic to v3

```
C:\Users\Darigan\Projects\istio-1.21.2>kubectl apply -f samples/bookinfo/networking/virtual-service-reviews-v3.yaml
virtualservice.networking.istio.io/reviews configured
```

8. Remove routing rules

```
C:\Users\Darigan\Projects\istio-1.21.2>kubectl delete -f samples/bookinfo/networking/virtual-service-all-v1.yaml
virtualservice.networking.istio.io "productpage" deleted
virtualservice.networking.istio.io "reviews" deleted
virtualservice.networking.istio.io "ratings" deleted
virtualservice.networking.istio.io "details" deleted
```