

Lab Istio & Bookinfo

1. Install Istio (if not already installed)

```
istioctl install --set profile=demo -y
```

2. Deploy the Bookinfo sample app

```
kubectl apply -f samples/bookinfo/platform/kube/bookinfo.yaml
```

Expected: All Bookinfo deployments and services created.

```
PS D:\istio-1.28.0> kubectl apply -f samples/bookinfo/platform/kube/bookinfo.yaml
service/details created
serviceaccount/bookinfo-details created
deployment.apps/details-v1 created
service/ratings created
serviceaccount/bookinfo-ratings created
deployment.apps/ratings-v1 created
service/reviews created
serviceaccount/bookinfo-reviews created
deployment.apps/reviews-v1 created
deployment.apps/reviews-v2 created
deployment.apps/reviews-v3 created
service/productpage created
serviceaccount/bookinfo-productpage created
deployment.apps/productpage-v1 created
PS D:\istio-1.28.0>
```

```
See 'kubectl apply --help' for usage.
PS D:\istio-1.28.0> # 检查 CRD 是否已存在
PS D:\istio-1.28.0> kubectl get crd gateways.gateway.networking.k8s.io -ErrorAction SilentlyContinue
error: unknown shorthand flag: 'E' in -ErrorAction
See 'kubectl get --help' for usage.
PS D:\istio-1.28.0> if ($LASTEXITCODE -ne 0) {
>>     Write-Host "Gateway API CRDs 不存在, 正在安装 ..."
>>     kubectl apply --server-side -f https://github.com/kubernetes-sigs/gateway-api/releases/download/v1.4.0/experimental-install.yaml
>> } else {
>>     Write-Host "Gateway API CRDs 已经存在, 跳过安装。"
>>
Gateway API CRDs 不存在, 正在安装 ...
Warning: unrecognized format "int32"
Warning: unrecognized format "int64"
customresourcedefinition.apiextensions.k8s.io/backendtlspolicies.gateway.networking.k8s.io serverside-applied
customresourcedefinition.apiextensions.k8s.io/gatewayclasses.gateway.networking.k8s.io serverside-applied
customresourcedefinition.apiextensions.k8s.io/gateways.gateway.networking.k8s.io server side-applied
customresourcedefinition.apiextensions.k8s.io/grpcroutes.gateway.networking.k8s.io serverside-applied
customresourcedefinition.apiextensions.k8s.io/httproutes.gateway.networking.k8s.io serverside-applied
customresourcedefinition.apiextensions.k8s.io/referencegrants.gateway.networking.k8s.io serverside-applied
customresourcedefinition.apiextensions.k8s.io/tcproutes.gateway.networking.k8s.io serve rside-applied
customresourcedefinition.apiextensions.k8s.io/tlsroutes.gateway.networking.k8s.io serve rside-applied
customresourcedefinition.apiextensions.k8s.io/udproutes.gateway.networking.k8s.io serve rside-applied
customresourcedefinition.apiextensions.k8s.io/xbackendtrafficpolicies.gateway.networkin g.x-k8s.io serverside-applied
customresourcedefinition.apiextensions.k8s.io/xlistenersets.gateway.networking.x-k8s.io serverside-applied
customresourcedefinition.apiextensions.k8s.io/xmeshes.gateway.networking.x-k8s.io serve rside-applied
PS D:\istio-1.28.0>
```

3.Verify all pods are running

```
kubectl get pods
```

NAME	READY	STATUS	RESTARTS	AGE
bookinfo-gateway-istio-65d995d847-gjd76	1/1	Running	1 (3m10s ago)	20h
details-v1-77d6bd5675-9wsgv	2/2	Running	0	15h
hello-minikube-6c85c4df45-bhz5x	0/1	ImagePullBackOff	0	22h
hello-minikube-6c85c4df45-r2b6p	0/1	ImagePullBackOff	0	22h
hello-minikube-858b7b9984-5j4lg	1/1	Running	1 (3m10s ago)	22h
hello-minikube-858b7b9984-rd2zp	1/1	Running	1 (3m10s ago)	22h
hello-minikube-858b7b9984-z7z6z	1/1	Running	1 (3m10s ago)	22h
productpage-v1-bb87ff47b-jzbp5	2/2	Running	0	13s
ratings-v1-8589f64b4c-jcmsr	2/2	Running	0	10s
reviews-v1-8cf7b9cc5-vbx5b	2/2	Running	0	9s
reviews-v2-67d565655f-5cfpm	2/2	Running	0	9s
reviews-v3-d587fc9d7-2qhwg	2/2	Running	0	9s

4. Expose the application

```
kubectl apply -f samples/bookinfo/networking/bookinfo-gateway.yaml
```

gateway.gateway.networking.k8s.io/bookinfo-gateway unchanged	PROGRAMME
httproute.gateway.networking.k8s.io/bookinfo configured	
PS D:\istio-1.28.0> kubectl get gateway	
NAME CLASS ADDRESS	
D AGE	
bookinfo-gateway istio bookinfo-gateway-istio.default.svc.cluster.local True	
20h	
PS D:\istio-1.28.0> kubectl port-forward svc/bookinfo-gateway-istio 8080:80	
Forwarding from 127.0.0.1:8080 -> 80	
Forwarding from [::1]:8080 -> 80	
Handling connection for 8080	
Handling connection for 8080	

5. Confirm the Gateway

```
kubectl get gateway
```

Expected: Gateway bookinfo-gateway appears.

6. Check application access

istioctl analyze

minikube tunnel

Then open browser to the istio-ingressgateway external IP (from):

kubectl get svc istio-ingressgateway -n istio-system

localhost:8080/productpage

BookInfo Sample

Sign in

The Comedy of Errors

Wikipedia Summary: The Comedy of Errors is one of **William Shakespeare's** early plays. It is his shortest and one of his most farcical comedies, with a major part of the humour coming from slapstick and mistaken identity, in addition to puns and word play.

[Learn more about Istio →](#)

Book Details

ISBN-10	Publisher	Pages	Type	Language
1234567890	PublisherA	200	paperback	English

Book Reviews

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

Reviewer1
Reviews served by: reviews-v1-8cf7b9cc5-vbx5b

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

Reviewer2
Reviews served by: reviews-

7. Deploy observability add-ons

kubectl apply -f samples/addons

Expected: Grafana, Kiali, Prometheus, Jaeger pods created.

```
s
Events:
  Type    Reason     Age   From           Message
  ----  -----  ----  ---  -----
  Normal  Scheduled  101s  default-scheduler  Successfully assigned istio-system/prometheus-6964c8fb8-m9nhn to minikube
  Normal  Pulling    100s  kubelet        Pulling image "ghcr.io/prometheus-operator/prometheus-config-reloader:v0.85.0"
PS D:\istio-1.28.0> kubectl rollout status deployment/kiali -n istio-system
deployment "kiali" successfully rolled out
PS D:\istio-1.28.0> $ istioctl dashboard kiali
$ : 无法将“$”项识别为 cmdlet、函数、脚本文件或可运行程序的名称。请检查名称的拼写，如果包括路径，请确保路径正确，然后再试一次。
所在位置 行:1 字符: 1
+ $ istioctl dashboard kiali
+ ~
  + CategoryInfo          : ObjectNotFound: ($:String) [], CommandNotFoundException
  + FullyQualifiedErrorId : CommandNotFoundException

PS D:\istio-1.28.0> istioctl dashboard kiali
istioctl : 无法将“istioctl”项识别为 cmdlet、函数、脚本文件或可运行程序的名称。请检查名称的拼写，如果包括路径，请确保路径正确，然后再试一次。
所在位置 行:1 字符: 1
+ istioctl dashboard kiali
+ ~~~~~
  + CategoryInfo          : ObjectNotFound: (istioctl:String) [], CommandNotFoundException
  + FullyQualifiedErrorId : CommandNotFoundException

PS D:\istio-1.28.0> istioctl dashboard kiali
istioctl : 无法将“istioctl”项识别为 cmdlet、函数、脚本文件或可运行程序的名称。请检查名称的拼写，如果包括路径，请确保路径正确，然后再试一次。
所在位置 行:1 字符: 1
+ istioctl dashboard kiali
+ ~~~~~
  + CategoryInfo          : ObjectNotFound: (istioctl:String) [], CommandNotFoundException
  + FullyQualifiedErrorId : CommandNotFoundException

PS D:\istio-1.28.0> istioctl dashboard kiali
istioctl : 无法将“istioctl”项识别为 cmdlet、函数、脚本文件或可运行程序的名称。请检查名称的拼写，如果包括路径，请确保路径正确，然后再试一次。
所在位置 行:1 字符: 1
+ istioctl dashboard kiali
+ ~~~~~
  + CategoryInfo          : ObjectNotFound: (istioctl:String) [], CommandNotFoundException
  + FullyQualifiedErrorId : CommandNotFoundException

PS D:\istio-1.28.0> $env:Path = "$PWD\bin;" + $env:Path
PS D:\istio-1.28.0> istioctl dashboard kiali
http://localhost:20001/kiali
```

12. Open Kiali dashboard

istioctl dashboard kiali

Expected: Kiali web UI opens in browser (service graph visible).

