

Cloud lab 4

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Extract isitocctl.exe to folder

```
PS C:\Users\user\Documents\IstioProject> dir

Directory: C:\Users\user\Documents\IstioProject

Mode                LastWriteTime         Length Name
----                -
a----          28/02/2025      16:35      98927616 istioctl.exe

PS C:\Users\user\Documents\IstioProject>
```

Install isito

```
Directory: C:\Users\user\Documents\IstioProject

Mode                LastWriteTime         Length Name
----                -
d-----          28/02/2025      16:35          istio-1.25.0

PS C:\Users\user\Documents\IstioProject> cd .\istio-1.25.0\
PS C:\Users\user\Documents\IstioProject\istio-1.25.0> $Env:Path = ".$bin;" + $Env:Path
PS C:\Users\user\Documents\IstioProject\istio-1.25.0> istioctl version
Istio is not present in the cluster: no running Istio pods in namespace "istio-system"
client version: 1.25.0
PS C:\Users\user\Documents\IstioProject\istio-1.25.0> istioctl install -f samples/bookinfo/demo-profile-no-gateways.yaml -y

Istio core installed 🎉
Istiod installed 🎉
Installation complete
PS C:\Users\user\Documents\IstioProject\istio-1.25.0>
```

Custom label

```
Istio core installed 🎉
Istiod installed 🎉
Installation complete
PS C:\Users\user\Documents\IstioProject\istio-1.25.0> kubectl label namespace default istio-injection=enabled --overwrite
namespace/default labeled
PS C:\Users\user\Documents\IstioProject\istio-1.25.0>
```

Install Kubernetes gateways api crds

```
PS C:\Users\user\Documents\IstioProject\istio-1.25.0> kubectl kustomize "github.com/kubernetes-sigs/gateway-api/config/crd?ref=v1.2.1" | 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
PS C:\Users\user\Documents\IstioProject\istio-1.25.0>
```

Deploy bookinfo

```
PS C:\Users\User\Documents\IstioProject\istio-1.25.0> 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 C:\Users\User\Documents\IstioProject\istio-1.25.0>
```

Verify bookinfo services

```
PS C:\Users\User\Documents\IstioProject\istio-1.25.0> kubectl get services
NAME            TYPE        CLUSTER-IP      EXTERNAL-IP  PORT(S)          AGE
details         ClusterIP   10.100.8.7      <none>       9080/TCP         33s
kubernetes       ClusterIP   10.96.0.1       <none>       443/TCP          17m
productpage     ClusterIP   10.102.255.211  <none>       9080/TCP         33s
ratings         ClusterIP   10.110.80.221   <none>       9080/TCP         33s
reviews         ClusterIP   10.96.84.138    <none>       9080/TCP         33s
PS C:\Users\User\Documents\IstioProject\istio-1.25.0>
```

Verify pods

```
PS C:\Users\User\Documents\IstioProject\istio-1.25.0> kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
details-v1-79dfbd6fff-7kb58        2/2     Running   0           75s
productpage-v1-dfffc47f64-kz96b    2/2     Running   0           75s
ratings-v1-65f797b499-9mcz2        2/2     Running   0           75s
reviews-v1-5c4d6d447c-q76f2        2/2     Running   0           75s
reviews-v2-65cb66b45c-r546x        2/2     Running   0           75s
reviews-v3-f68f94645-8tsml         2/2     Running   0           75s
PS C:\Users\User\Documents\IstioProject\istio-1.25.0>
```

Verify internal access

```
PS C:\Users\User\Documents\IstioProject\istio-1.25.0> kubectl exec $(kubectl get pod -l app=ratings -o jsonpath='{.items[0].metadata.name}') -c ratings -- curl -sS productpage | Select-String -Pattern "<title>.*</title>"
<title>Simple Bookstore App</title>
PS C:\Users\User\Documents\IstioProject\istio-1.25.0>
```

Create gateway

```
PS C:\Users\User\Documents\IstioProject\istio-1.25.0> kubectl apply -f samples/bookinfo/gateway-api/bookinfo-gateway.yaml
gateway.gateway.networking.k8s.io/bookinfo-gateway created
httproute.gateway.networking.k8s.io/bookinfo created
PS C:\Users\User\Documents\IstioProject\istio-1.25.0>
```

Modify gateway

```
PS C:\Users\User\Documents\IstioProject\istio-1.25.0> kubectl annotate gateway bookinfo-gateway networking.istio.io/service-type=ClusterIP --namespace=default
gateway.gateway.networking.k8s.io/bookinfo-gateway annotated
PS C:\Users\User\Documents\IstioProject\istio-1.25.0>
```

Check gateway status

```

gateway.gateway.networking.k8s.io/bookinfo-gateway annotated
S C:\Users\user\Documents\IstioProject\istio-1.25.0> kubectl get gateway
NAME          CLASS          ADDRESS
bookinfo-gateway  istio  bookinfo-gateway-istio.default.svc.cluster.local  True  86s
S C:\Users\user\Documents\IstioProject\istio-1.25.0>

```

New powershell window> port forwarding

```

Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

S C:\WINDOWS\system32> kubectl port-forward svc/bookinfo-gateway-istio 8080:80
Forwarding from 127.0.0.1:8080 -> 80
Forwarding from [::1]:8080 -> 80

```

Bookinfo page working successfully



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-v1-5c4d6d447c-q76f2

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



Reviewer2

Reviews served by: reviews-v1-5c4d6d447c-q76f2

Observe traffic routing (refreshed multiple times, book reviews section changes)

BookInfo Sample

Sig

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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.

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Book Reviews

★★★★★

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




Reviewer1

Reviews served by: reviews-v3-f68f94645-8tssl

★★★★☆

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



Reviewer2

Reviews served by: reviews-v3-f68f94645-8tssl

Install telemetry addons

```
PS C:\Users\user\Documents\IstioProject\istio-1.25.0> kubectl apply -f samples/addons
serviceaccount/grafana created
configmap/grafana created
service/grafana created
deployment.apps/grafana created
configmap/istio-grafana-dashboards created
configmap/istio-services-grafana-dashboards created
deployment.apps/jaeger created
service/tracing created
service/zipkin created
service/jaeger-collector created
serviceaccount/kiali created
configmap/kiali created
clusterrole.rbac.authorization.k8s.io/kiali created
clusterrolebinding.rbac.authorization.k8s.io/kiali created
service/kiali created
deployment.apps/kiali created
serviceaccount/loki created
configmap/loki created
configmap/loki-runtime created
clusterrole.rbac.authorization.k8s.io/loki-clusterrole created
clusterrolebinding.rbac.authorization.k8s.io/loki-clusterrolebinding created
service/loki-memberlist created
service/loki-headless created
service/loki created
statefulset.apps/loki created
serviceaccount/prometheus created
configmap/prometheus created
clusterrole.rbac.authorization.k8s.io/prometheus created
clusterrolebinding.rbac.authorization.k8s.io/prometheus created
service/prometheus created
deployment.apps/prometheus created
PS C:\Users\user\Documents\IstioProject\istio-1.25.0>
```

Verify kiali deployment

```
PS C:\Users\user\Documents\IstioProject\istio-1.25.0> kubectl rollout status deployment/kiali -n istio-system
Waiting for deployment "kiali" rollout to finish: 0 of 1 updated replicas are available...
Deployment "kiali" successfully rolled out
PS C:\Users\user\Documents\IstioProject\istio-1.25.0>
```

Kiali dashboard

The screenshot displays the Kiali dashboard interface in a web browser. The main panel shows the 'istio-system' namespace with a list of resources including Istio config, Kiali, and Prometheus. The 'Kiali' resource is highlighted, showing its status as 'Running' and 'Ready'. The terminal window on the right shows the command history for installing and verifying the Kiali deployment.

```
istio core installed
istio installed
Installation complete
PS C:\Users\user\Documents\IstioProject\istio-1.25.0> kubectl apply -f samples/addons
serviceaccount/grafana created
configmap/grafana created
service/grafana created
deployment.apps/grafana created
configmap/istio-grafana-dashboards created
configmap/istio-services-grafana-dashboards created
deployment.apps/jaeger created
service/tracing created
service/zipkin created
service/jaeger-collector created
serviceaccount/kiali created
configmap/kiali created
clusterrole.rbac.authorization.k8s.io/kiali created
clusterrolebinding.rbac.authorization.k8s.io/kiali created
service/kiali created
deployment.apps/kiali created
serviceaccount/loki created
configmap/loki created
configmap/loki-runtime created
clusterrole.rbac.authorization.k8s.io/loki-clusterrole created
clusterrolebinding.rbac.authorization.k8s.io/loki-clusterrolebinding created
service/loki-memberlist created
service/loki-headless created
service/loki created
statefulset.apps/loki created
serviceaccount/prometheus created
configmap/prometheus created
clusterrole.rbac.authorization.k8s.io/prometheus created
clusterrolebinding.rbac.authorization.k8s.io/prometheus created
service/prometheus created
deployment.apps/prometheus created
PS C:\Users\user\Documents\IstioProject\istio-1.25.0> kubectl rollout status deployment/kiali -n istio-system
Waiting for deployment "kiali" rollout to finish: 0 of 1 updated replicas are available...
Deployment "kiali" successfully rolled out
PS C:\Users\user\Documents\IstioProject\istio-1.25.0> kubectl exec -n istio-system kiali
http://localhost:2001/kiali/console/overview?duration=60&refresh=60000
```

