Telemetry:

Generate Load on Bookinfo:

Let's generate HTTP traffic against the BookInfo application, so we can see interesting telemetry. Grab the ingress gateway port number and store it in a variable:

```
export INGRESS_PORT=$(kubectl get service istio-ingressgateway -n
istio-system --template='{{(index .spec.ports 0).nodePort}}')
```

Once we have the port, we can append the IP of one of the nodes to get the host.

```
export INGRESS_HOST_IP=$(kubectl get po -l istio=ingressgateway
-n istio-system -o jsonpath='{.items[0].status.hostIP}')
```

```
export INGRESS_HOST="$INGRESS_HOST_IP:$INGRESS_PORT"
```

Now, let us generate a small load on the sample app by using fortio which is a load testing library created by the Istio team:

The command below will run load test by making 5 calls per second for 5 minutes:

```
docker run istio/fortio load -t 5m -qps 5
http://$INGRESS_HOST/productpage
```

Let's now checkout the generated metrics.

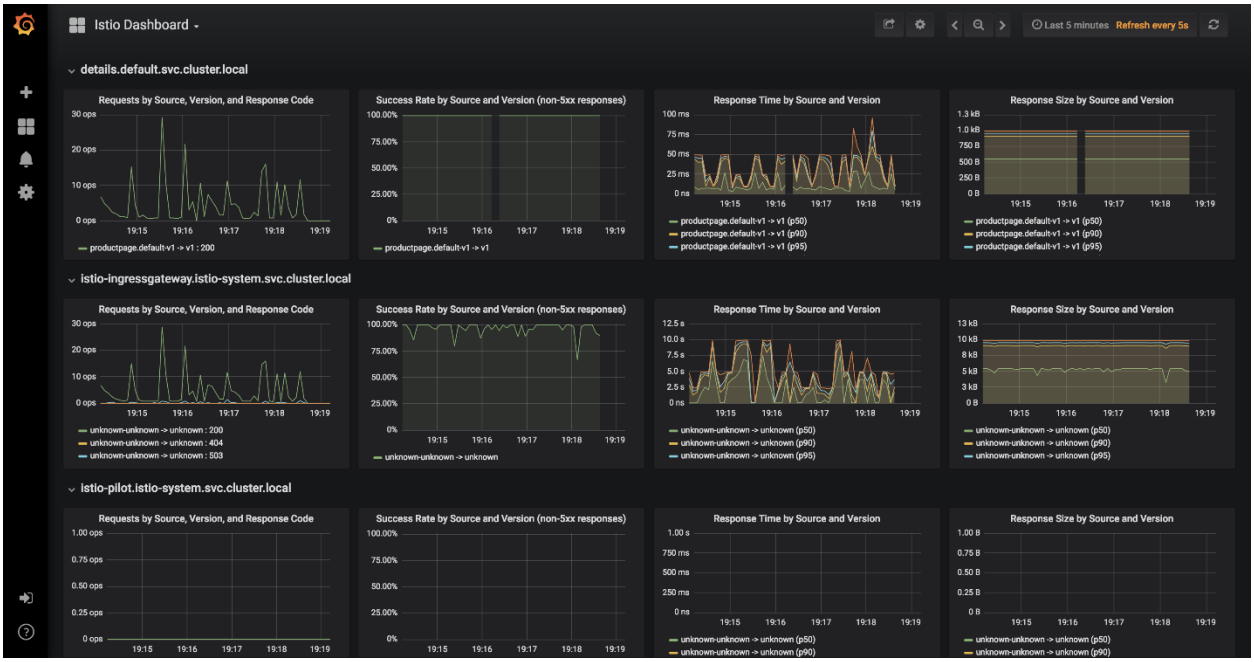
Grafana:

```
$ microk8s.kubectl -n istio-system get svc grafana

NAME      TYPE        CLUSTER-IP      EXTERNAL-IP   PORT(S)    AGE

grafana   ClusterIP   10.152.183.56   <none>        3000/TCP   4d7h
```

If you have exposed Grafana service as LoadBalancer then use ingress host IP and Grafana service port to access Grafana dashboard.

If you have exposed Grafana service as ClusterIP then use Grafana service IP and port to access Grafana dashboard.

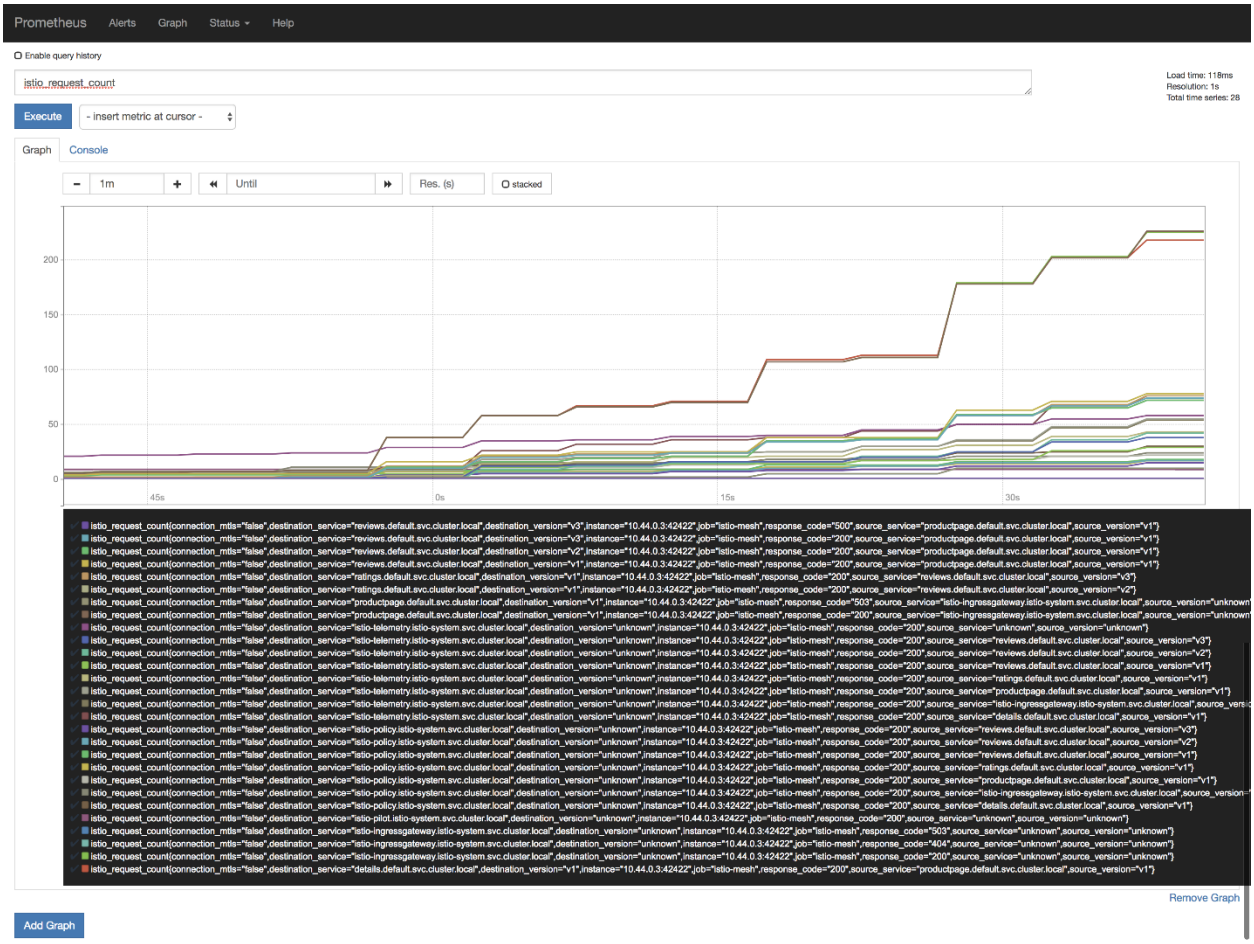
You can then navigate to the Istio Dashboard.



Prometheus is also available in the same way.

```
$ microk8s.kubectl -n istio-system get svc prometheus
NAME         TYPE        CLUSTER-IP       EXTERNAL-IP   PORT(S)    AGE
prometheus   ClusterIP   10.152.183.112   <none>        9090/TCP   4d7h
```

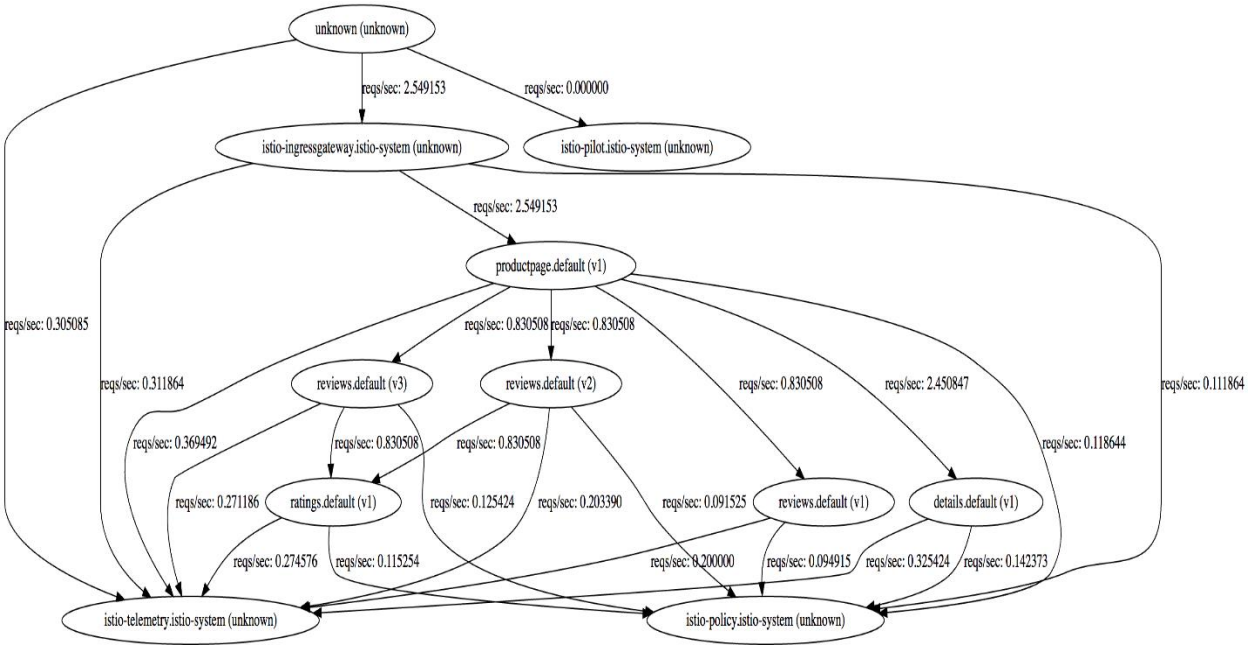
Browse to /graph and in the Expression input box enter: **istio_request_count**. Click the Execute button.



The servicegraph endpoint is available with:

```
$ microk8s.kubectl -n istio-system get svc servicegraph
NAME           TYPE        CLUSTER-IP       EXTERNAL-IP   PORT(S)    AGE
servicegraph   ClusterIP   10.152.183.119   <none>        8088/TCP   4d7h
```

It will show an error page with 404 not found. Update the URI to **/dotviz** and you will see the generated service graph.



For a more interactive graph, navigate to **force/forcegraph.html**.