Prerequisites:

1. Git Bash or other Linux command line tool
2. Docker Desktop downloaded
3. Windows Powershell downloaded
4. K3d is running and installed
5. Locust test file and performance test file in working directory
6. NOTE: if stuck copy paste this guide into chatGPT and ask for assistance

Open Docker Desktop
Make sure files are in the working directory AND they are updated with your username and password:

yourls_basic.yaml
mysql_basic.yaml
redis_intermediate.yaml
mysql_intermediate.yaml
yourls_intermediate.yaml
yourls.yaml
redis.yaml
mysql.yaml

YOURLS only

```
k3d cluster create yourls-cluster --agents 1
kubectl config use-context k3d-yourls-cluster
```

Create the Kubernetes cluster with one Kubernetes agent and configure it with the context of k3d-yourls-cluster

```
kubectl apply -f mysql_basic.yaml
kubectl apply -f yourls_basic.yaml
```

Apply the configurations outlined in the yamls through the Kubelet.

```
kubectl get pods
```

Check that the pods are running. Do not continue until you see under “Running” 1/1 rather than 0/1

```
kubectl port-forward svc/yourls 8080:80
```

Have the kubelet direct the YOURLs application to port 8080

python yourls_performance_test.py

Run the performance test

Log in with your credentials

k3d cluster delete yourls-cluster

Tear down the in-place infrastructure and configs.

YOURLS + Redis

k3d cluster create yourls-cluster --agents 1
kubectl config use-context k3d-yourls-cluster

Create the Kubernetes cluster with one Kubernetes agent and configure it with the context of k3d-yourls-cluster

kubectl apply -f redis_intermediate.yaml
kubectl apply -f mysql_intermediate.yaml
kubectl apply -f yourls_intermediate.yaml

Apply the configurations outlined in the yamls through the Kubelet.

kubectl get pods

Check that the pods are running. Do not continue until you see under “Running” 1/1 rather than 0/1

kubectl port-forward svc/yourls 8080:80

Have the kubelet direct the YOURLs application to port 8080

Log in with your credentials

python yourls_performance_test.py

Run the performance test

k3d cluster delete yourls-cluster

Tear down the in-place infrastructure and configs.

YOURLS + Redis + Bloom

k3d cluster create yourls-cluster --agents 1
kubectl config use-context k3d-yourls-cluster

Create the Kubernetes cluster with one Kubernetes agent and configure it with the context of k3d-yourls-cluster

kubectl apply -f redis.yaml
kubectl apply -f mysql.yaml
kubectl apply -f yourls.yaml

Apply the configurations outlined in the yamls through the Kubelet.

kubectl get pods

Check that the pods are running. Do not continue until you see under “Running” 1/1 rather than 0/1

kubectl port-forward svc/yourls 8080:80

Have the kubelet direct the YOURLs application to port 8080

python yourls_performance_test.py

Run the performance test

k3d cluster delete yourls-cluster

Tear down the in-place infrastructure and configs.