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Github Repository: https://github.com/justgnoh/Task-A-CS3219

This task requires a demonstration. Hence commands used for demonstration is outlined here for future reference.

Docker

docker-compose build

Kubernetes

kubectl apply -f 1-namespace.yaml

kubectl apply -f 2-deployment.yaml

kubectl apply -f 3-service.yaml

kubectl get all -n taska3

kubectl apply -f https://raw.githubusercontent.com/kubernetes/ingress-nginx/controller-v1.0.4/deploy/static/provider/cloud/deploy.yaml

kubectl get pods -n ingress-nginx -l app.kubernetes.io/name=ingress-nginx --watch

kubectl apply -f 4-ingress.yaml

kubectl get ingress -n taska3

kubectl apply -f 5-metric-server.yaml

kubectl top node

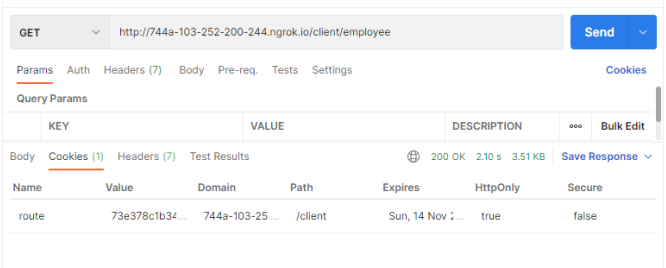
kubectl apply -f 6-hpa.yaml

kubectl get deployment -A

ngrok

ngrok.exe http 80

Description: This is used to expose your localhost to a public IP that can be accessed from other clients.



BusyBox

kubectl run -i --tty load-generator --rm --image=busybox --restart=Never -- /bin/sh -c "while sleep 0.01; do wget -q -O- http://<insert-url-here>/client/department; done"

Description: This is used to generate requests to “overload” the ingress.

Watch CPU utilization: kubectl get hpa -A

Check if it is scaled: kubectl get deployment -A

```
Justin@JustinsWorkstation MINGW64 ~/Desktop/New folder (2)/Task-A-CS3219/OTOT_TASK_A3/kubernetes (main)
$ kubectl get hpa -A
NAMESPACE   NAME         REFERENCE                      TARGETS   MINPODS   MAXPODS   REPLICAS   AGE
taska3      client-hpa   Deployment/client-deployment   7%/5%     2         5         2          5m6s

Justin@JustinsWorkstation MINGW64 ~/Desktop/New folder (2)/Task-A-CS3219/OTOT_TASK_A3/kubernetes (main)
$ kubectl get deployment -A
NAMESPACE       NAME                       READY   UP-TO-DATE   AVAILABLE   AGE
ingress-nginx   ingress-nginx-controller   1/1     1            1           6m14s
kube-system     coredns                    2/2     2            2           13m
kube-system     metrics-server             1/1     1            1           5m36s
taska3          client-deployment          3/3     3            3           6m41s
```

Routes

http://localhost/client/department

http://localhost/client/employee

http://localhost/client/meetingroom