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GitHub link: <https://github.com/yanchenglee98/OTOT-A2-A3>

Instructions (instructions denoted with a (number) are essential setup steps):

- 1) (1) create cluster: `kind create cluster --name kind-1 --config k8s/kind/cluster-config.yaml`
- 2) (2) load local image into k8 cluster: `kind load docker-image yanchenglee/taska1 --name=kind-1`
- 3) (3) at root folder OTOT-A2-A3, run this command to apply the deployment manifest: `kubectl apply -f ./demo/a2/deployment.yaml`
- 4) check if deployment is running fine with this command: `kubectl get deployment/a2 --watch`
- 5) check on status of pods: `kubectl get po -lapp=a2 --watch`
- 6) (4) create ingress controller by applying this manifest set: `kubectl apply -f https://raw.githubusercontent.com/kubernetes/ingress-nginx/main/deploy/static/provider/kind/deploy.yaml`
- 7) (5) create a service for deployment to allow ingress to expose a service: `kubectl apply -f ./demo/a2/service.yaml`
- 8) check that ingress controller is ready before applying ingress object: `kubectl -n ingress-nginx get deploy`
- 9) (6) create an ingress object: `kubectl apply -f ./demo/a2/ingress.yaml`
- 10) access the website at: <http://localhost/app/>

Screenshots:

Pods

```
C:\Users\yanch\Downloads\cs3219\OTOT-A2-A3>kubectl get po -lapp=a2 --watch
NAME                                READY   STATUS    RESTARTS   AGE
a2-6759ff47f4-bpcvj                1/1     Running   0           50m
```

Nodes

```
C:\Users\yanch\Downloads\cs3219\OTOT-A2-A3>kubectl get nodes -L ingress-ready
NAME                STATUS    ROLES    AGE   VERSION   INGRESS-READY
kind-1-control-plane Ready    control-plane   54m   v1.25.0
kind-1-worker       Ready    <none>         54m   v1.25.0   true
kind-1-worker2      Ready    <none>         54m   v1.25.0
kind-1-worker3      Ready    <none>         54m   v1.25.0
```

Ingress controller

```
C:\Users\yanch\Downloads\cs3219\OTOT-A2-A3>kubectl -n ingress-nginx get deploy
NAME                                READY   UP-TO-DATE   AVAILABLE   AGE
ingress-nginx-controller            1/1     1             1           51m
```

Deployment

```
C:\Users\yanch\Downloads\cs3219\OTOT-A2-A3>kubectl get deployment/a2
```

NAME	READY	UP-TO-DATE	AVAILABLE	AGE
a2	1/1	1	1	51m

Service

```
C:\Users\yanch\Downloads\cs3219\OTOT-A2-A3>kubectl get service
```

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
a2	ClusterIP	10.96.108.32	<none>	3000/TCP	52m
kubernetes	ClusterIP	10.96.0.1	<none>	443/TCP	56m

Ingress

```
C:\Users\yanch\Downloads\cs3219\OTOT-A2-A3>kubectl get ingress
```

NAME	CLASS	HOSTS	ADDRESS	PORTS	AGE
a2	<none>	*	localhost	80	51m

Webpage

