

第一次课后作业——基于云原生技术的软件开发

181250090 刘育麟

1、通过 Docker 运行 2048

- 1) 打开终端
- 2) 执行 minikube runstart 启动 minikube

```
C:\Users\willy>minikube start
* minikube v1.11.0 on Microsoft Windows 10 Home 10.0.18362 Build 18362
* Using the virtualbox driver based on existing profile
* Starting control plane node minikube in cluster minikube
* Updating the running virtualbox "minikube" VM ...
* Found network options:
  - NO_PROXY=192.168.99.100,192.168.99.101
  - no_proxy=192.168.99.100,192.168.99.101
* Preparing Kubernetes v1.18.3 on Docker 19.03.8 ...
  - env NO_PROXY=192.168.99.100,192.168.99.101
* Verifying Kubernetes components...
* Enabled addons: default-storageclass, storage-provisioner
* Done! kubectl is now configured to use "minikube"
```

- 3) 执行 docker run -d -P daocloud.io/daocloud/dao-2048

```
C:\Users\willy>docker run -d -P daocloud.io/daocloud/dao-2048
Unable to find image 'daocloud.io/daocloud/dao-2048:latest' locally
latest: Pulling from daocloud/dao-2048
e110a4a17941: Pull complete
                                4ec6301153bf: Pull complete
                                complete
                                0d9d4f3215d7: Pull complete
b66acec9ea6edcc407a6fe4c162f03cd112e90b041d
Status: Downloaded newer image for daocloud.io/daocloud/dao-2048:latest
16810fc583b993aa91c235fale42782f44ea0b3d3be7a7ee2b4923799709c51a
```

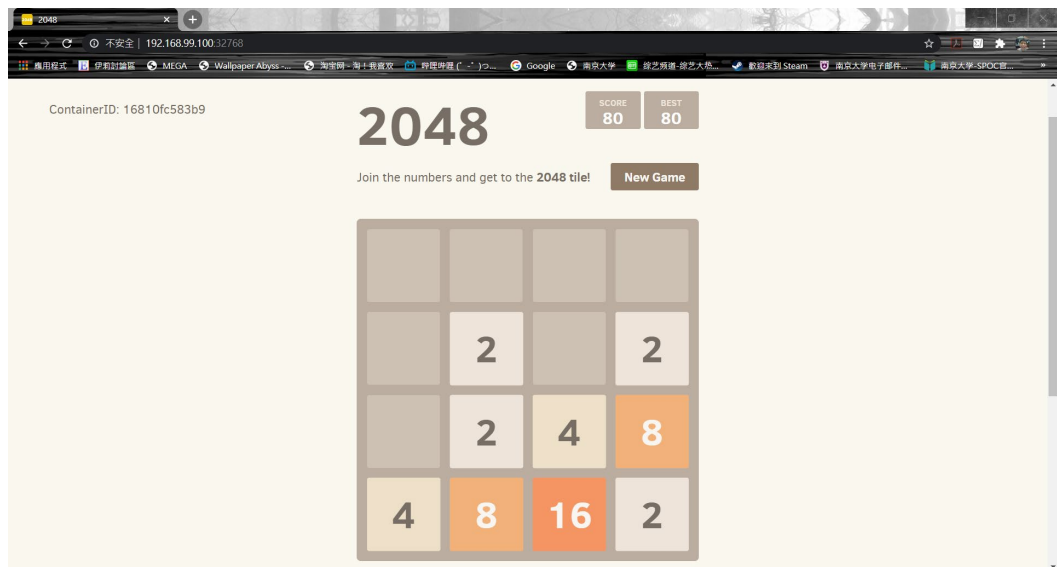
- 4) 执行 docker ps 找到默认端口

```
C:\Users\willy>docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS
16810fc583b9        daocloud.io/dao-2048  "/bin/sh -c 'sed -i ...'"   37 seconds ago     Up 35 seconds      0.0.0.0:32768->80/tcp
4f58fe2328d5        67da37a9a360       "/coredns -conf /etc..."   3 minutes ago      Up 3 minutes
```

- 5) 执行 minikube ip 找到 docker daemon 需要访问的 IP 地址

```
C:\Users\willy>minikube ip
192.168.99.100
```

- 6) 浏览器打开 <http://192.168.99.100:32768/>



2、通过 k8s 运行 2048

- 1) 打开终端
- 2) 执行 `kubectl run game --image=daocloud.io/daocloud/dao-2048 --port=80`

```
C:\Users\willy>kubectl run game --image=daocloud.io/daocloud/dao-2048 --port=80
pod/game created

C:\Users\willy>kubectl get pods
NAME    READY   STATUS    RESTARTS   AGE
game    1/1     Running   0           8s
```

- 3) 执行 `kubectl expose pod game --type=NodePort` 暴露接口

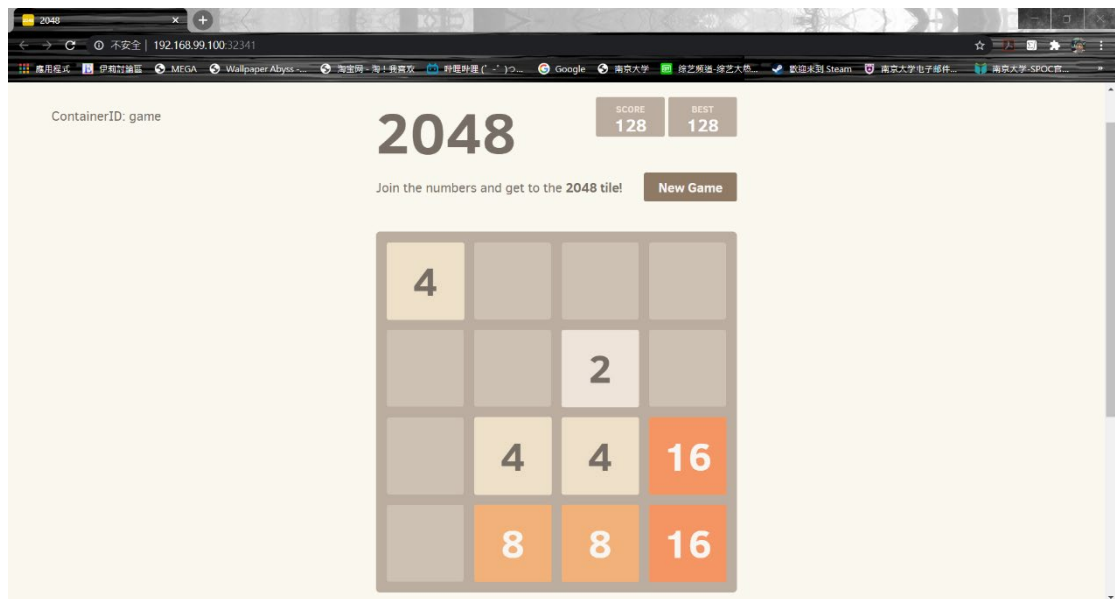
```
C:\Users\willy>kubectl expose pod game --type=NodePort
service/game exposed

C:\Users\willy>minikube get service
Error: unknown command "get" for "minikube"
Run 'minikube --help' for usage.

C:\Users\willy>kubectl get service
NAME         TYPE        CLUSTER-IP    EXTERNAL-IP  PORT(S)          AGE
game         NodePort    10.101.176.7  <none>       80:32341/TCP     29s
kubernetes   ClusterIP   10.96.0.1     <none>       443/TCP          77m
```

- 4) 执行 `minikube service game` 启动服务

```
C:\Users\willy>minikube service game
|-----|-----|-----|
| NAMESPACE | NAME | TARGET PORT | URL |
|-----|-----|-----|
| default | game | 80 | http://192.168.99.100:32341 |
|-----|-----|-----|
* Opening service default/game in default browser...
```



5) 执行 minikube dashboard 查看 k8s 状态

```
C:\Users\willy>minikube dashboard
* Verifying dashboard health ...
* Launching proxy ...
* Verifying proxy health ...
* Opening http://127.0.0.1:51818/api/v1/namespaces/kubernetes-dashboard/services/http:kubernetes-dashboard:/proxy/ in your default browser...
```

