

在kubernetes中部署应用

笔记本： 新课程笔记

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URL： <https://lnmp.org/download.html>

文档整理 https://coding.net/u/aminglinux/p/k8s_discuz/git/tree/master

1 下载MySQL、PHP以及Nginx镜像

```
docker pull mysql:5.7
```

```
docker pull richarvey/nginx-php-fpm
```

2 将下载到的镜像push到harbor

```
docker tag mysql:5.7 harbor.yuankeedu.com/aminglinux/mysql:5.7
```

```
docker push harbor.yuankeedu.com/aminglinux/mysql:5.7
```

```
docker tag aming-nginx-php harbor.yuankeedu.com/aminglinux/nginx-php
```

```
docker push harbor.yuankeedu.com/aminglinux/nginx-php
```

3 搭建NFS服务

```
yum install nfs-utils
```

```
vim /etc/exportfs
```

```
/data/k8s/ 172.7.5.0/24(sync,rw,no_root_squash)
```

```
systemctl start nfs
```

```
systemctl enable nfs
```

```
mkdir -p /data/k8s/discuz/{db,web}
```

4 搭建MySQL服务

1) 创建secret

```
kubectl create secret generic mysql-pass --from-literal=password=DzPasswd123
```

2) 创建pv

```
vim mysql-pv.yaml //内容如下
```

```
apiVersion: v1
kind: PersistentVolume
metadata:
  name: mysql-pv
spec:
  capacity:
    storage: 10Gi
  accessModes:
    - ReadWriteMany
  nfs:
    path: /data/k8s/discuz/db
    server: 172.7.5.113
```

```
kubectl create -f mysql-pv.yaml
```

3) 创建pvc

```
vim mysql-pvc.yaml //内容如下
```

```
apiVersion: v1
kind: PersistentVolumeClaim
metadata:
```

```
name: mysql-claim
labels:
  app: discuz
spec:
  accessModes:
    - ReadWriteMany
  resources:
    requests:
      storage: 10Gi
```

kubect! create -f mysql-pvc.yaml

4) 创建deployment

vim mysql-dp.yaml //内容如下

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: dz-mysql
  labels:
    app: discuz
spec:
  replicas: 2
  selector:
    matchLabels:
      app: discuz
      tier: mysql
  strategy:
    type: Recreate
  template:
    metadata:
      labels:
        app: discuz
        tier: mysql
    spec:
      imagePullSecrets:
        - name: my-secret
      containers:
        - image: harbor.yuankeedu.com/aminglinux/mysql:5.7
          name: dz-mysql
          env:
            - name: MYSQL_ROOT_PASSWORD
              valueFrom:
                secretKeyRef:
                  name: mysql-pass
                  key: password
          ports:
            - containerPort: 3306
              name: dz-mysql
          volumeMounts:
            - name: mysql-persistent-storage
              mountPath: /var/lib/mysql
          volumes:
            - name: mysql-persistent-storage
              persistentVolumeClaim:
                claimName: mysql-claim
```

kubect! create -f mysql-dp.yaml

5) 创建service

vim mysql-svc.yaml

```
apiVersion: v1
kind: Service
metadata:
  name: dz-mysql
  labels:
    app: discuz
spec:
  ports:
    - port: 3306
  selector:
    app: discuz
    tier: mysql
```

kubectl create -f mysql-svc.yaml

5 搭建nginx+php-fpm服务

1) 创建pv

vim web-pv.yaml //内容如下

```
apiVersion: v1
kind: PersistentVolume
metadata:
  name: web-pv
spec:
  capacity:
    storage: 10Gi
  accessModes:
    - ReadWriteMany
  nfs:
    path: /data/k8s/discuz/web
    server: 172.7.5.113
```

kubectl create -f web-pv.yaml

2) 创建pvc

vim web-pvc.yaml //内容如下

```
apiVersion: v1
kind: PersistentVolumeClaim
metadata:
  name: web-claim
  labels:
    app: discuz
spec:
  accessModes:
    - ReadWriteMany
  resources:
    requests:
      storage: 10Gi
```

kubectl create -f web-pvc.yaml

3) 创建deployment

vim web-dp.yaml //内容如下

```
apiVersion: apps/v1
kind: Deployment
```

```
metadata:
  name: dz-web
  labels:
    app: discuz
spec:
  replicas: 1
  selector:
    matchLabels:
      app: discuz
      tier: nginx-php
  template:
    metadata:
      labels:
        app: discuz
        tier: nginx-php
    spec:
      imagePullSecrets:
        - name: my-secret
      containers:
        - image: harbor.yuankeedu.com/aminglinux/nginx-php
          name: dz-web
          ports:
            - containerPort: 9000
            - containerPort: 80
          name: dz-web
          volumeMounts:
            - name: mysql-persistent-storage
              mountPath: /var/www/html/
      volumes:
        - name: mysql-persistent-storage
          persistentVolumeClaim:
            claimName: web-claim
```

kubectl create -f web-dp.yaml

4) 创建service

vim web-svc.yaml

```
apiVersion: v1
kind: Service
metadata:
  name: dz-web
  labels:
    app: discuz
spec:
  ports:
    - port: 80
  selector:
    app: discuz
    tier: nginx-php
```

kubectl create -f web-svc.yaml

