

第

2

节

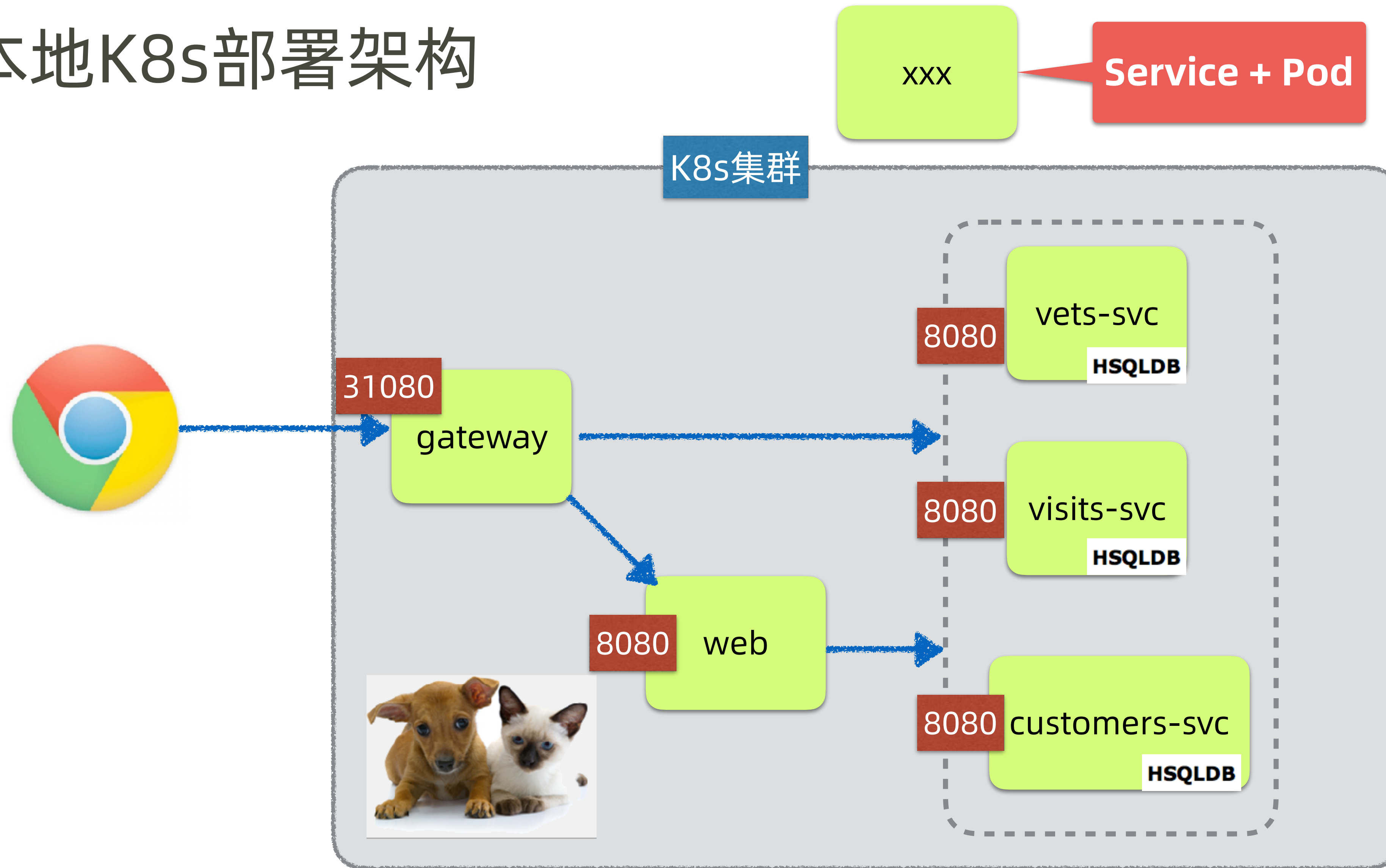
将Petclinic微服务部署到本地K8s环境

# 本课内容

- Petclinic微服务本地K8s部署架构Review
- Petclinic微服务本地K8s部署文件Review
- 将Petclinic微服务部署到本地K8s环境



# 本地K8s部署架构



<https://github.com/spring2go/spring-petclinic-msa/k8s/local>

# customer-svc.yml

```
22 apiVersion: v1
23 kind: Service
24 metadata:
25   name: customers
26 spec:
27   selector:
28     app: customers
29   ports:
30     - name: http
31       port: 8080
32       targetPort: 8080
33   type: ClusterIP
```

```
1  apiVersion: apps/v1
2  kind: Deployment
3  metadata:
4    name: customers
5  spec:
6    selector:
7      matchLabels:
8        app: customers
9    replicas: 1
10   template:
11     metadata:
12       labels:
13         app: customers
14     spec:
15       containers:
16         - name: customers
17           image: spring2go/spring-petclinic-customers-service:1.0.0.RELEASE
18           env:
19             - name: SERVER_PORT
20               value: "8080"
```

# vets-svc.yml

```
22 apiVersion: v1
23 kind: Service
24 metadata:
25 |   name: vets
26 spec:
27 |   selector:
28 |     app: vets
29 |   ports:
30 |     - name: http
31 |       port: 8080
32 |       targetPort: 8080
33 |   type: ClusterIP
```

```
1  apiVersion: apps/v1
2  kind: Deployment
3  metadata:
4  |   name: vets
5  spec:
6  |   selector:
7  |     matchLabels:
8  |       app: vets
9  |   replicas: 1
10 |   template:
11 |     metadata:
12 |       labels:
13 |         app: vets
14 |     spec:
15 |       containers:
16 |         - name: vets
17 |           image: spring2go/spring-petclinic-vets-service:1.0.0.RELEASE
18 |           env:
19 |             - name: SERVER_PORT
20 |               value: "8080"
```

# visits-svc.yml

```
22 apiVersion: v1
23 kind: Service
24 metadata:
25   name: visits
26 spec:
27   selector:
28     app: visits
29   ports:
30   - name: http
31     port: 8080
32     targetPort: 8080
33   type: ClusterIP
```

```
1  apiVersion: apps/v1
2  kind: Deployment
3  metadata:
4    name: visits
5  spec:
6    selector:
7      matchLabels:
8        app: visits
9    replicas: 1
10   template:
11     metadata:
12       labels:
13         app: visits
14     spec:
15       containers:
16       - name: visits
17         image: spring2go/spring-petclinic-visits-service:1.0.0.RELEASE
18         env:
19         - name: SERVER_PORT
20           value: "8080"
21 ---
```



# web-app.yml

```
26 apiVersion: v1
27 kind: Service
28 metadata:
29   name: web
30 spec:
31   selector:
32     app: web
33   ports:
34     - name: http
35       port: 8080
36       targetPort: 8080
37   type: ClusterIP
```

```
1  apiVersion: apps/v1
2  kind: Deployment
3  metadata:
4    name: web
5  spec:
6    selector:
7      matchLabels:
8        app: web
9    replicas: 1
10   template:
11     metadata:
12       labels:
13         app: web
14     spec:
15       containers:
16         - name: web
17           image: spring2go/spring-petclinic-web-app:1.0.0.RELEASE
18           env:
19             - name: SERVER_PORT
20               value: "8080"
21             - name: VISITS_SERVICE_ENDPOINT
22               value: http://visits:8080
23             - name: CUSTOMERS_SERVICE_ENDPOINT
24               value: http://customers:8080
```

# gateway-svc.yml

```
30 apiVersion: v1
31 kind: Service
32 metadata:
33   name: gateway
34 spec:
35   selector:
36     app: gateway
37   ports:
38     - name: http
39       port: 8080
40       targetPort: 8080
41       nodePort: 31080
42   type: NodePort
```

```
1  apiVersion: apps/v1
2  kind: Deployment
3  metadata:
4    name: gateway
5  spec:
6    selector:
7      matchLabels:
8        app: gateway
9    replicas: 1
10   template:
11     metadata:
12       labels:
13         app: gateway
14     spec:
15       containers:
16         - name: gateway-service
17           image: spring2go/spring-petclinic-cloud-gateway:1.0.0.RELEASE
18           env:
19             - name: SERVER_PORT
20               value: "8080"
21             - name: WEB_APP_ENDPOINT
22               value: http://web:8080
23             - name: VETS_SERVICE_ENDPOINT
24               value: http://vets:8080
25             - name: VISITS_SERVICE_ENDPOINT
26               value: http://visits:8080
27             - name: CUSTOMERS_SERVICE_ENDPOINT
28               value: http://customers:8080
```



# 查询kuberentes-dashboard token

```
1. william@jskill: ~ (zsh)
→ ~ kubectl get ns
NAME                STATUS    AGE
default             Active   105d
docker              Active   105d
kube-node-lease     Active   105d
kube-public         Active   105d
kube-system         Active   105d
kubernetes-dashboard Active   25h
→ ~ kubectl get secret -n kubernetes-dashboard
NAME                                TYPE                                DATA  AGE
default-token-745bg                kubernetes.io/service-account-token 3      25h
kubernetes-dashboard-certs        Opaque                              0      25h
kubernetes-dashboard-csrf         Opaque                              1      25h
kubernetes-dashboard-key-holder   Opaque                              2      25h
kubernetes-dashboard-token-qsbwf  kubernetes.io/service-account-token 3      25h
→ ~
```

<https://github.com/kubernetes/dashboard>

# 查询kubernetes-dashboard token

```
1. william@jskill: ~ (zsh)
→ ~ kubectl describe secret kubernetes-dashboard-token-qsbwf -n kubernetes-dashboard
Name:          kubernetes-dashboard-token-qsbwf
Namespace:     kubernetes-dashboard
Labels:        <none>
Annotations:   kubernetes.io/service-account.name: kubernetes-dashboard
                kubernetes.io/service-account.uid: 4d4080b8-2557-11ea-98a9-025000000001

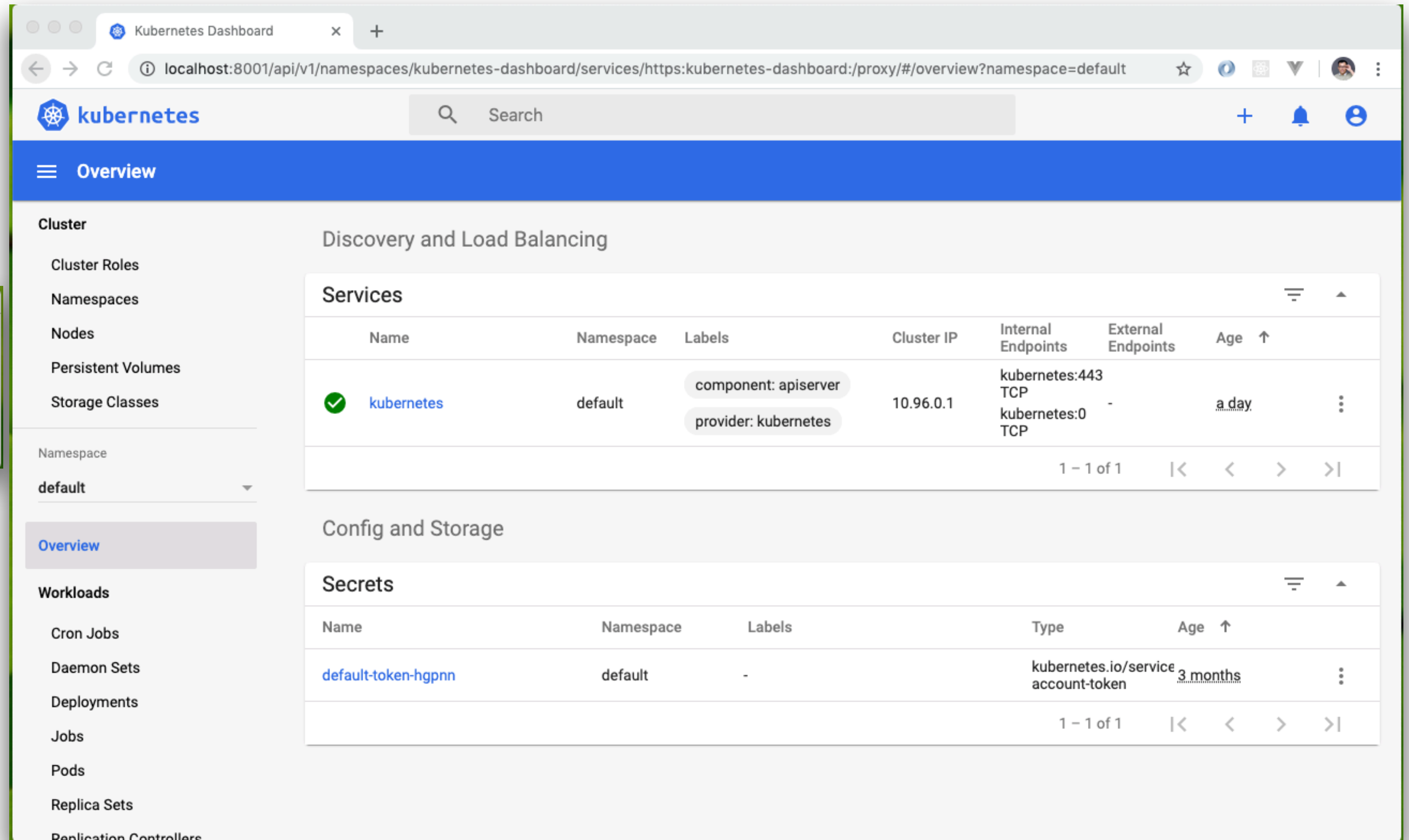
Type:  kubernetes.io/service-account-token

Data
====
ca.crt:      1025 bytes
namespace:   20 bytes
token:       eyJhbGciOiJSUzI1NiIsImtpZCI6IiJ9.eyJpc3MiOiJrdWJlcm5ldGVzL3NlcnZpY2VhY2NvdW50Iiwia3ViZXJuZXRlcy5pby9zZXJ2aWNlYWNjb3VudC9uYW1lc3BhY2UiOiJrdWJlcm5ldGVzLWRhc2hib2FyZCI6ImtpZ1YmVybmV0ZXMuaW8vc2VydmljZWFjY291bnQvc2VjcmV0Lm5hbWUiOiJrdWJlcm5ldGVzLWRhc2hib2FyZC10b2t1bi1xc2J3ZiIsImtpZ1YmVybmV0ZXMuaW8vc2VydmljZWFjY291bnQvc2VydmljZS1hY2NvdW50Lm5hbWUiOiJrdWJlcm5ldGVzLWRhc2hib2FyZCI6ImtpZ1YmVybmV0ZXMuaW8vc2VydmljZWFjY291bnQvc2VydmljZS1hY2NvdW50LnVpZCI6IjRkNDh4MGI4LTU1NTctMTFfLS05OGE5LTUyNTAwMDAwMDAwMSIsInN1YiI6InN5c3RlbTpwZXJ2aWNlYWNjb3VudDprdwJlcm5ldGVzLWRhc2hib2FyZDprdwJlcm5ldGVzLWRhc2hib2FyZCJ9.B4l0ZzRI
S50Qz-JSKA0EnPRlnI8futXiFDVQnLYvKo_a3eg1ush8KUHP96pWZw74b8WdJsv0z0fac1v48inEhgCQ0HhO-pDk0jYZXs0YZCa-
MTJ0b-G880JBi_sYrDqFkW6wWczieDxz1mtE0Egot7NmTzrKsqxU6kcsQk4b8y2sWcZef-To7brmQNaXWfY9BaVTdl0q4YesZAJV_
CTkiM-ldQndldgqy0_YVylZ7PRcNQUF4xLKaYZgdV6HKuv8hWgHhQeGr4Yk2qwPBpFkb7-V7_q3vHvNvHTnlHPAK-Jg3ql8qGYZCQ
co4Tn2P_v-fhsWy91VJyWfBL8zPMQVQ
→ ~
```

# 访问kubernetes-dashboard

```
1. kubectl proxy (kubectl)
→ ~ clear
→ ~ kubectl proxy

Starting to serve on 127.0.0.1:8001
```





# 部署

```
1. william@jskill: ~/mydev/github/spring2go/spring-petclinic-msa/k8s/local (zsh)
→ spring2go cd spring-petclinic-msa
→ spring-petclinic-msa git:(master) x ls
LICENSE                                customers-service                    spring-petclinic-msa.iml visits-service
README.md                             k8s                                target                             web-app
cloud-gateway                         pom.xml                             vets-service
→ spring-petclinic-msa git:(master) x cd k8s
→ k8s git:(master) x ls
local
→ k8s git:(master) x cd local
→ local git:(master) x ls
customers-svc.yml gateway-svc.yml  vets-svc.yml      visits-svc.yml    web-app.yml
→ local git:(master) x kubectl apply -f .
deployment.apps/customers created
service/customers created
deployment.apps/gateway created
service/gateway created
deployment.apps/vets created
service/vets created
deployment.apps/visits created
service/visits created
deployment.apps/web created
service/web created
→ local git:(master) x
```

# 查看发布

```
1. william@jskill: ~/mydev/github/spring2go/spring-petclinic-msa/k8s/local (zsh)
→ local git:(master) x kubectl get all
NAME                                READY    STATUS    RESTARTS    AGE
pod/customers-7b78b85c7d-9flzm      1/1      Running   0            48s
pod/gateway-558d7f976c-rhfzw        1/1      Running   0            48s
pod/vets-8bf75546c-cd92h            1/1      Running   0            48s
pod/visits-57f4598df9-bfj88         1/1      Running   0            48s
pod/web-6d46d5c849-ds6tl            1/1      Running   0            48s

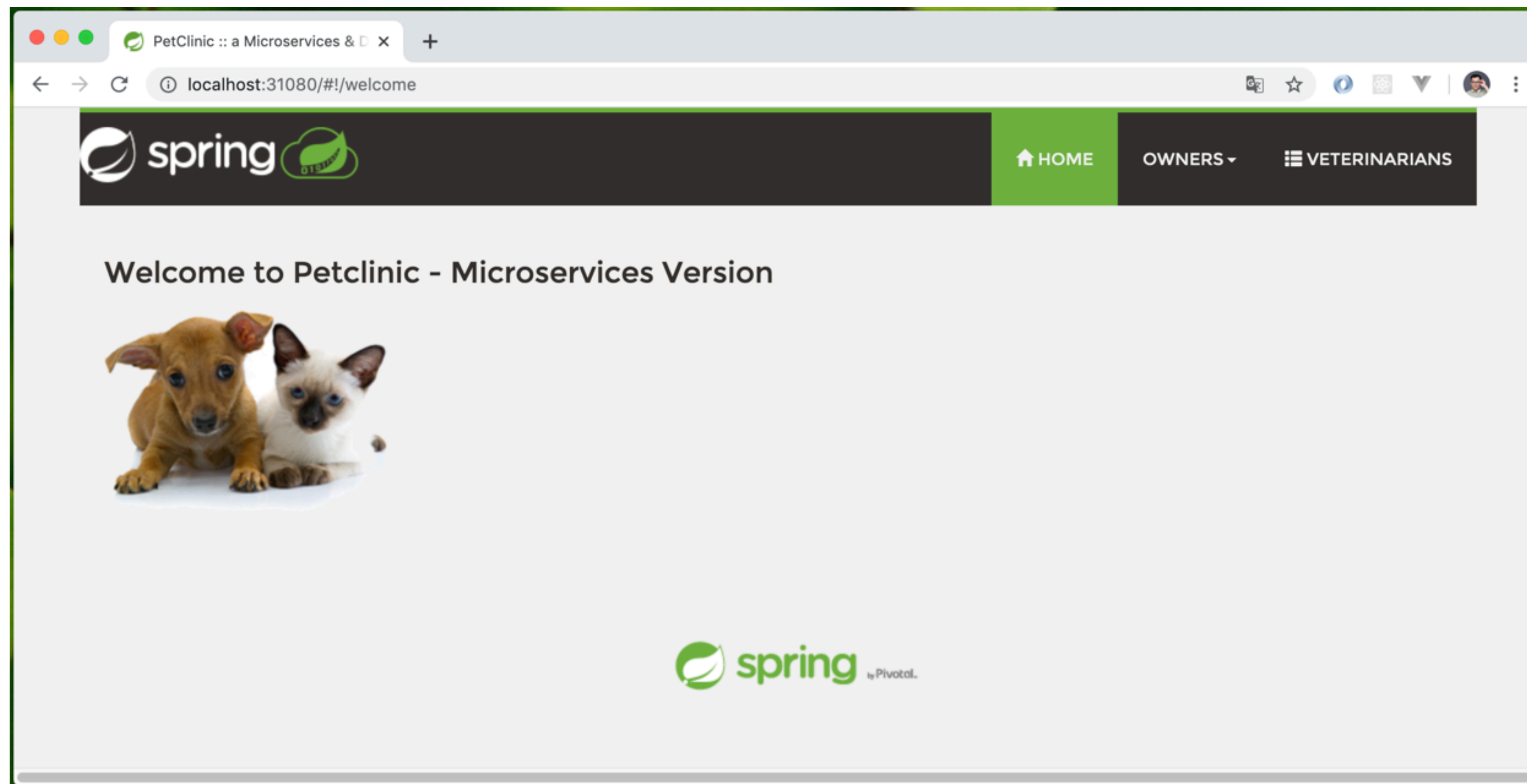
NAME                                TYPE      CLUSTER-IP    EXTERNAL-IP    PORT(S)        AGE
service/customers                   ClusterIP   10.110.177.84  <none>         8080/TCP        48s
service/gateway                     NodePort    10.107.15.227  <none>         8080:31080/TCP  48s
service/kubernetes                  ClusterIP   10.96.0.1      <none>         443/TCP         117s
service/vets                        ClusterIP   10.100.246.19  <none>         8080/TCP        48s
service/visits                      ClusterIP   10.100.52.2    <none>         8080/TCP        48s
service/web                         ClusterIP   10.106.173.153 <none>         8080/TCP        48s

NAME                                READY    UP-TO-DATE    AVAILABLE    AGE
deployment.apps/customers            1/1      1              1            48s
deployment.apps/gateway              1/1      1              1            48s
deployment.apps/vets                 1/1      1              1            48s
deployment.apps/visits                1/1      1              1            48s
deployment.apps/web                  1/1      1              1            48s

NAME                                DESIRED    CURRENT    READY    AGE
replicaset.apps/customers-7b78b85c7d 1          1          1        48s
replicaset.apps/gateway-558d7f976c    1          1          1        48s
replicaset.apps/vets-8bf75546c        1          1          1        48s
replicaset.apps/visits-57f4598df9     1          1          1        48s
replicaset.apps/web-6d46d5c849        1          1          1        48s
→ local git:(master) x
```



# 浏览器校验



# 环境清理

```
kubectrl delete deploy —all  
kubectrl delete svc —all  
关闭proxy, ctrl + c
```

# 本课小结



- Review了本地K8s部署架构
- Review了本地K8s部署文件
- 演示了Petclinic微服务的本地K8s部署