

第

4

节

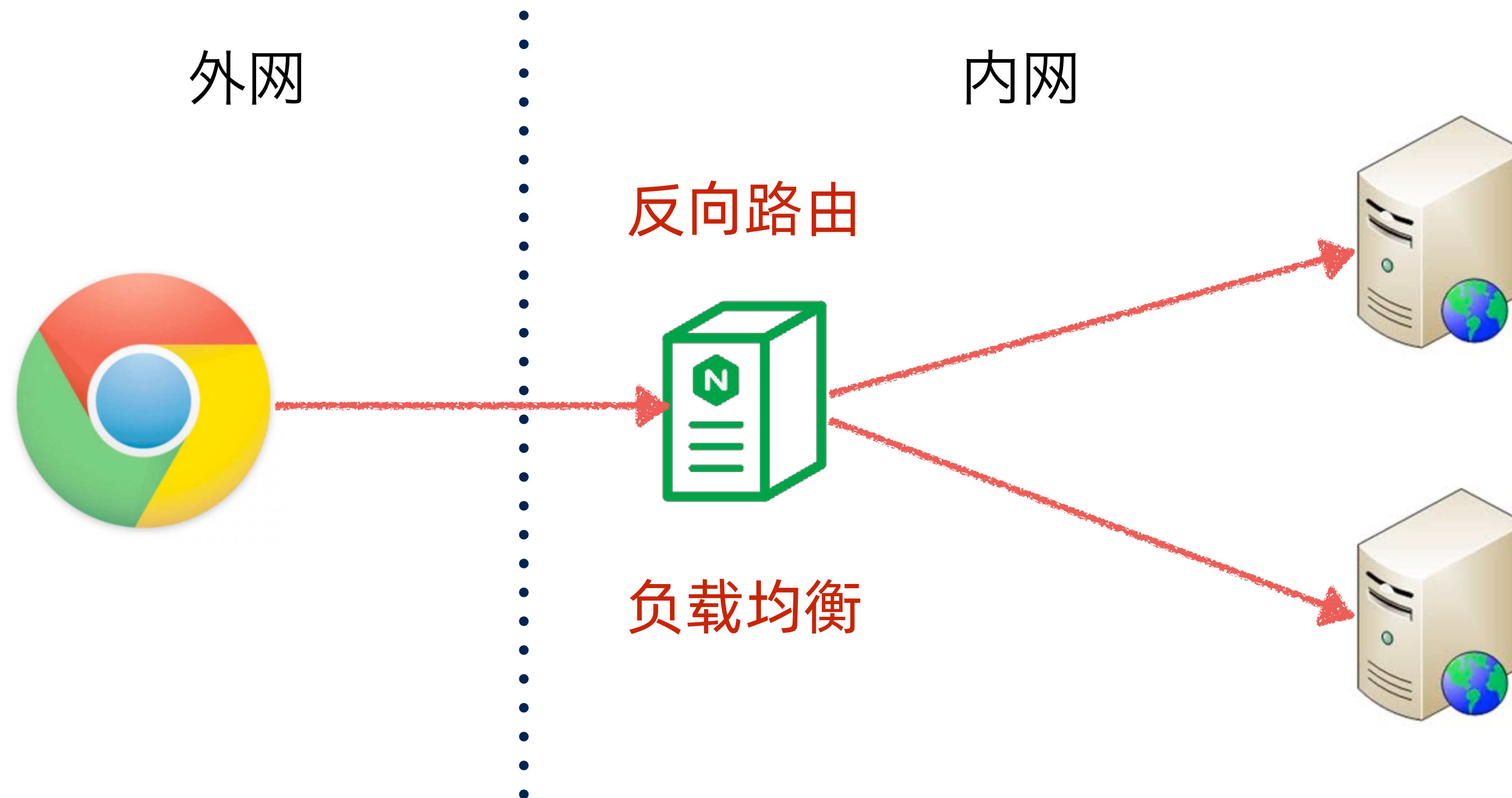
K8s反向代理 ~ Service

本课内容

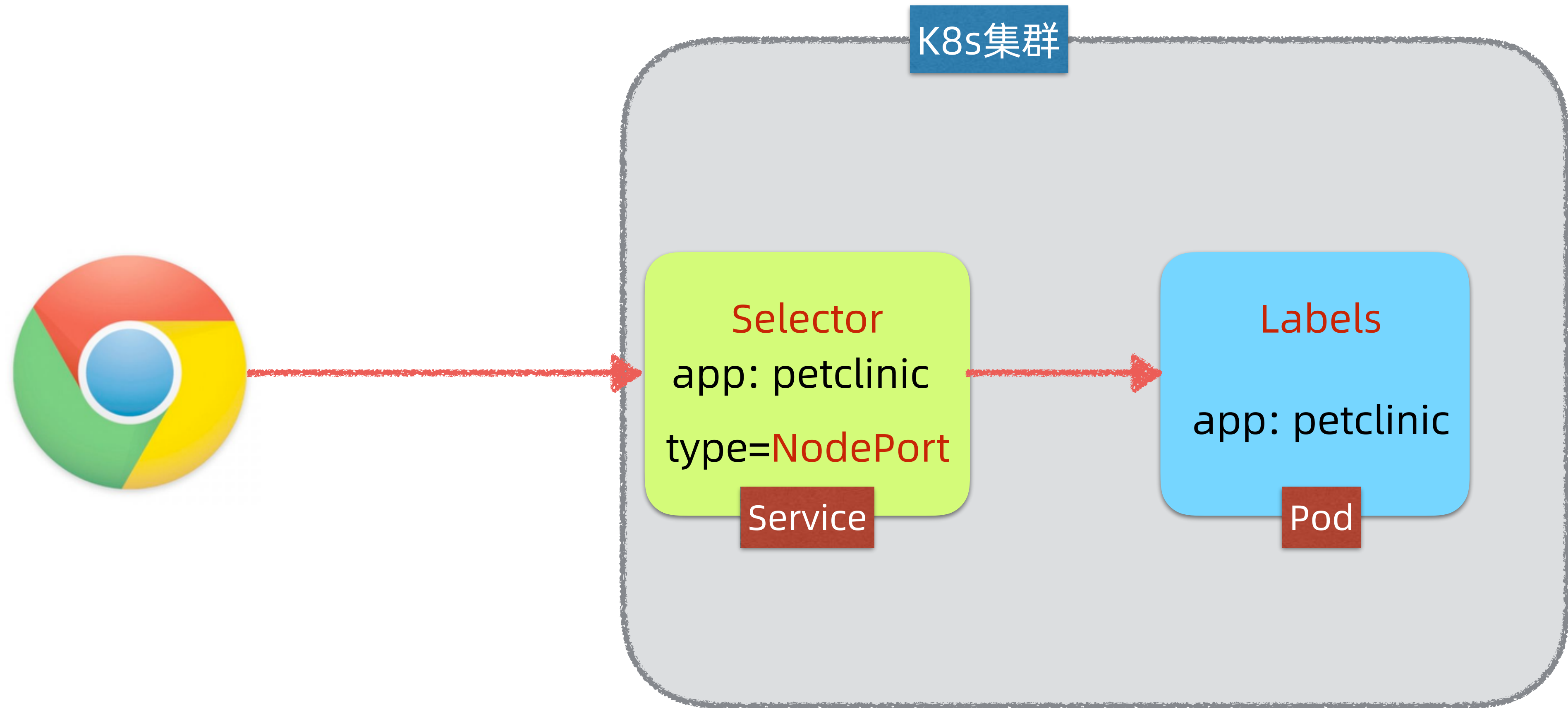
- Service/NodePort/Label/Selector原理和演示



反向代理



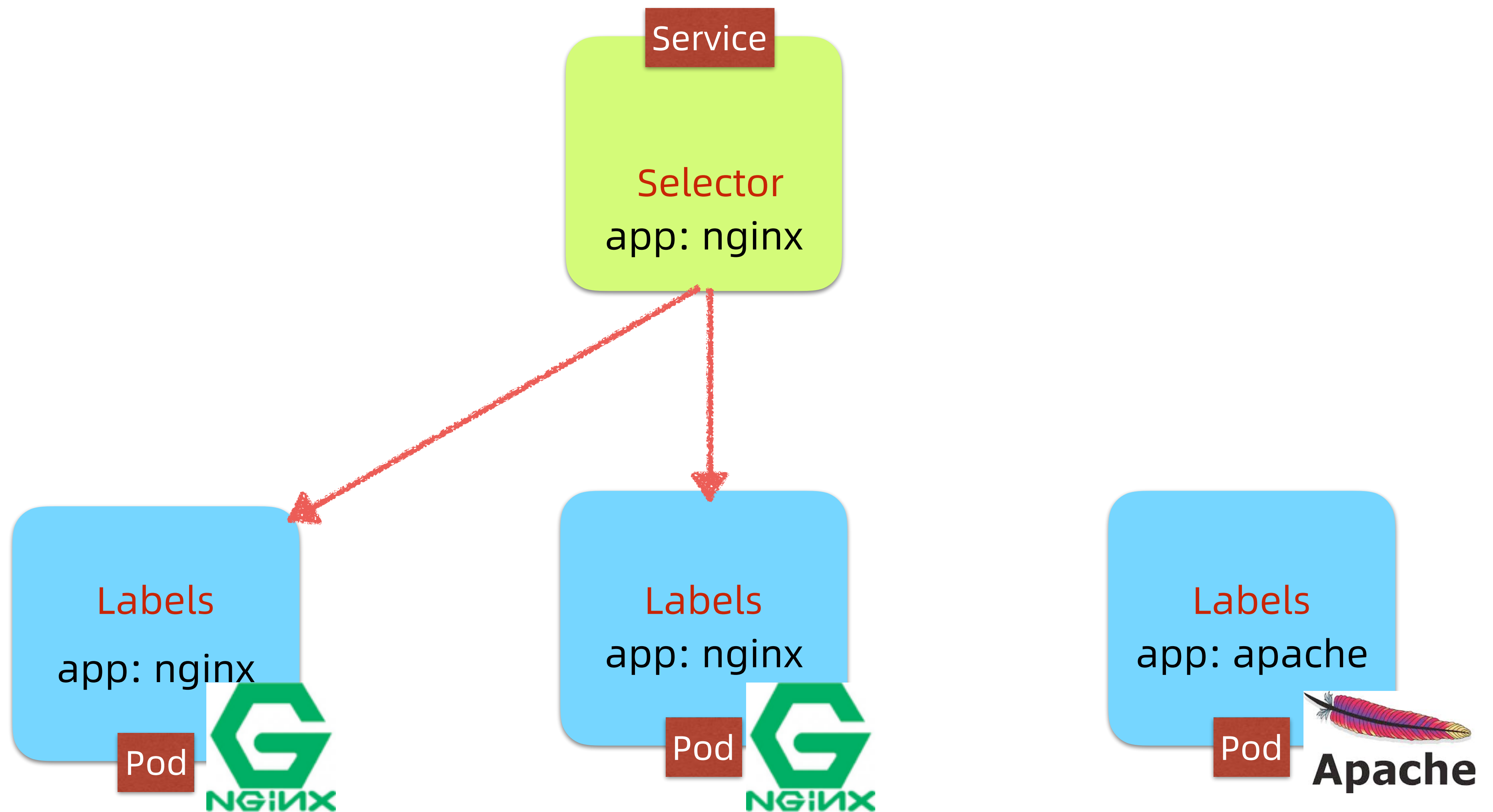
NodePort Service



Service Type = LoadBalancer

Service Type = ClusterIP

Label和Selector



Service发布样例规范

Service v1 core

kubectl example

curl example

Service Config to load balance traffic across all Pods with the app=nginx

```
kind: Service
apiVersion: v1
metadata:
  # Unique key of the Service instance
  name: service-example
spec:
  ports:
    # Accept traffic sent to port 80
    - name: http
      port: 80
      targetPort: 80
  selector:
    # Loadbalance traffic across Pods matching
    # this label selector
    app: nginx
  # Create an HA proxy in the cloud provider
  # with an External IP address - *Only supported
  # by some cloud providers*
  type: LoadBalancer
```

<https://kubernetes.io/docs/reference/generated/kubernetes-api/v1.14/#service-v1-core>

PetClinic Service发布规范

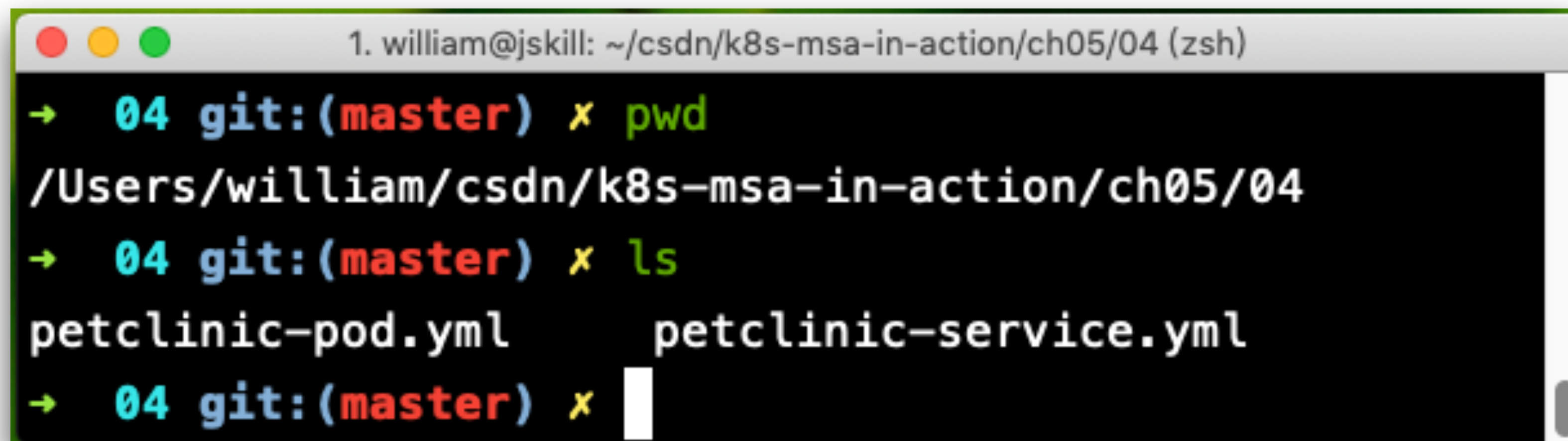
NodePort范围: 30000 ~ 32767

```
1  apiVersion: v1
2  kind: Service
3  metadata:
4    name: petclinic
5  spec:
6    ports:
7      - name: http
8        port: 8080
9        targetPort: 8080
10       nodePort: 31080
11    selector:
12      app: petclinic
13    type: NodePort
```


petclinic-pod.yml发布规范修改

```
1  apiVersion: v1
2  kind: Pod
3  metadata:
4    name: petclinic
5    labels:
6      app: petclinic
7  spec:
8    containers:
9      - name: petclinic
10       image: spring2go/spring-petclinic:1.0.0.RELEASE
```


创建目录和发布文件



```
1. william@jskill: ~/csdn/k8s-msa-in-action/ch05/04 (zsh)
→ 04 git:(master) x pwd
/Users/william/csdn/k8s-msa-in-action/ch05/04
→ 04 git:(master) x ls
petclinic-pod.yml      petclinic-service.yml
→ 04 git:(master) x
```

发布Service和Pod

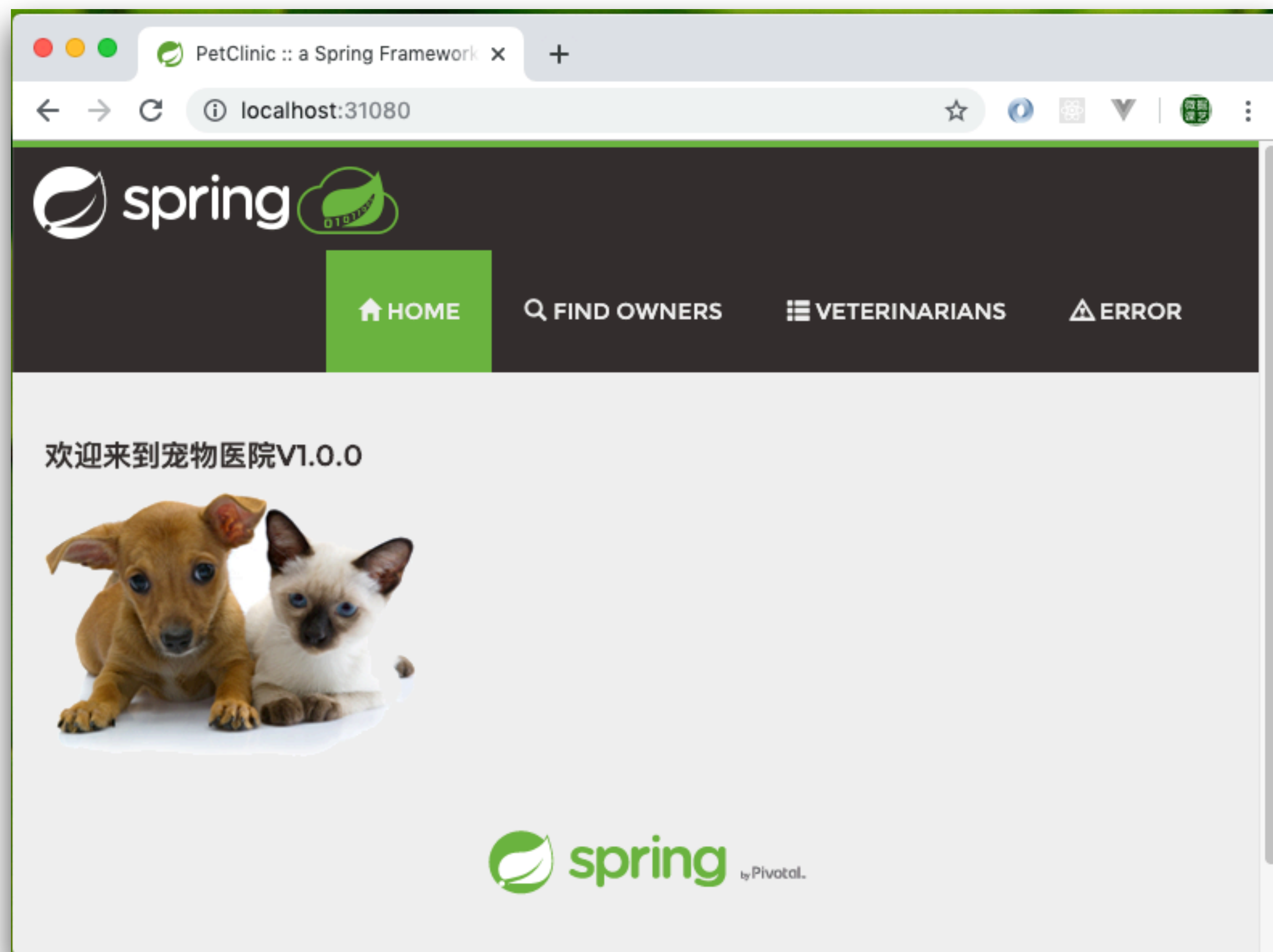
```
1. william@jskill: ~/csdn/k8s-msa-in-action/ch05/04 (zsh)
→ 04 git:(master) x kubectl get all
NAME                                TYPE                CLUSTER-IP      EXTERNAL-IP      PORT(S)          AGE
service/kubernetes                  ClusterIP           10.96.0.1       <none>           443/TCP          21d
→ 04 git:(master) x kubectl apply -f _
pod/petclinic created
service/petclinic created
→ 04 git:(master) x kubectl get all
NAME                                READY    STATUS    RESTARTS   AGE
pod/petclinic                        1/1      Running   0          6s

NAME                                TYPE                CLUSTER-IP      EXTERNAL-IP      PORT(S)          AGE
service/kubernetes                  ClusterIP           10.96.0.1       <none>           443/TCP          21d
service/petclinic                   NodePort            10.104.155.34   <none>           8080:31080/TCP   6s
→ 04 git:(master) x
```

查看Service资源详情

```
1. william@jskill: ~/csdn/k8s-msa-in-action/ch05/04 (zsh)
→ 04 git:(master) x kubectl describe svc petclinic
Name:                petclinic
Namespace:           default
Labels:              <none>
Annotations:         kubectl.kubernetes.io/last-applied-configuration:
                      {"apiVersion":"v1","kind":"Service","metadata":{"annotations":{}
                      ,"name":"petclinic","namespace":"default"},"spec":{"ports":[{"name":"http"...
Selector:            app=petclinic
Type:                NodePort
IP:                  10.104.155.34
LoadBalancer Ingress: localhost
Port:                http 8080/TCP
TargetPort:          8080/TCP
NodePort:            http 31080/TCP
Endpoints:           10.1.3.198:8080
Session Affinity:    None
External Traffic Policy: Cluster
Events:              <none>
→ 04 git:(master) x
```

PetClinic应用成功运行



清理环境

```
1. william@jskill: ~/csdn/k8s-msa-in-action/ch05/04 (zsh)
→ 04 git:(master) x kubectl get all
NAME                READY   STATUS    RESTARTS   AGE
pod/petclinic        1/1     Running   0           7s

NAME                TYPE          CLUSTER-IP   EXTERNAL-IP   PORT(S)          AGE
service/kubernetes  ClusterIP     10.96.0.1    <none>        443/TCP          21d
service/petclinic    NodePort      10.108.226.80 <none>        8080:31080/TCP   6s
→ 04 git:(master) x kubectl delete svc petclinic
service "petclinic" deleted
→ 04 git:(master) x kubectl delete po petclinic
pod "petclinic" deleted
→ 04 git:(master) x kubectl get all
NAME                TYPE          CLUSTER-IP   EXTERNAL-IP   PORT(S)          AGE
service/kubernetes  ClusterIP     10.96.0.1    <none>        443/TCP          22d
→ 04 git:(master) x
```

本课小结



- Service是K8s提供的反向代理机制
- NodePort是Service的一种类型，可将Service暴露给外网
- Label是K8s中的一种打标签机制
- Selector是K8s中的路由选择定位机制