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

外网 | 内网

反向路由

负载均衡

NodePort Service

K8s集群

Selector
app: petclinic

type=NodePort

Service

Labels

app: petclinic

Pod
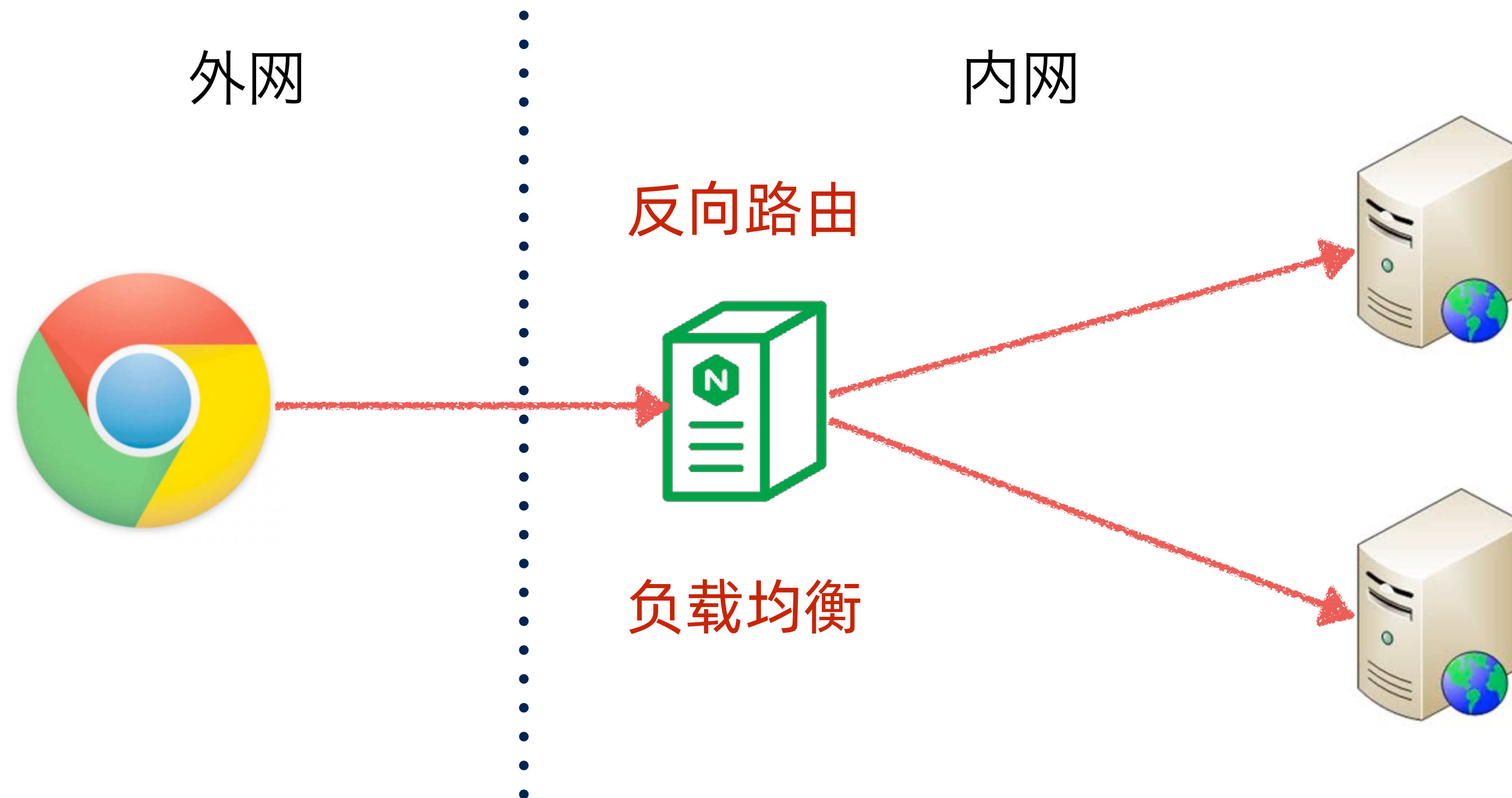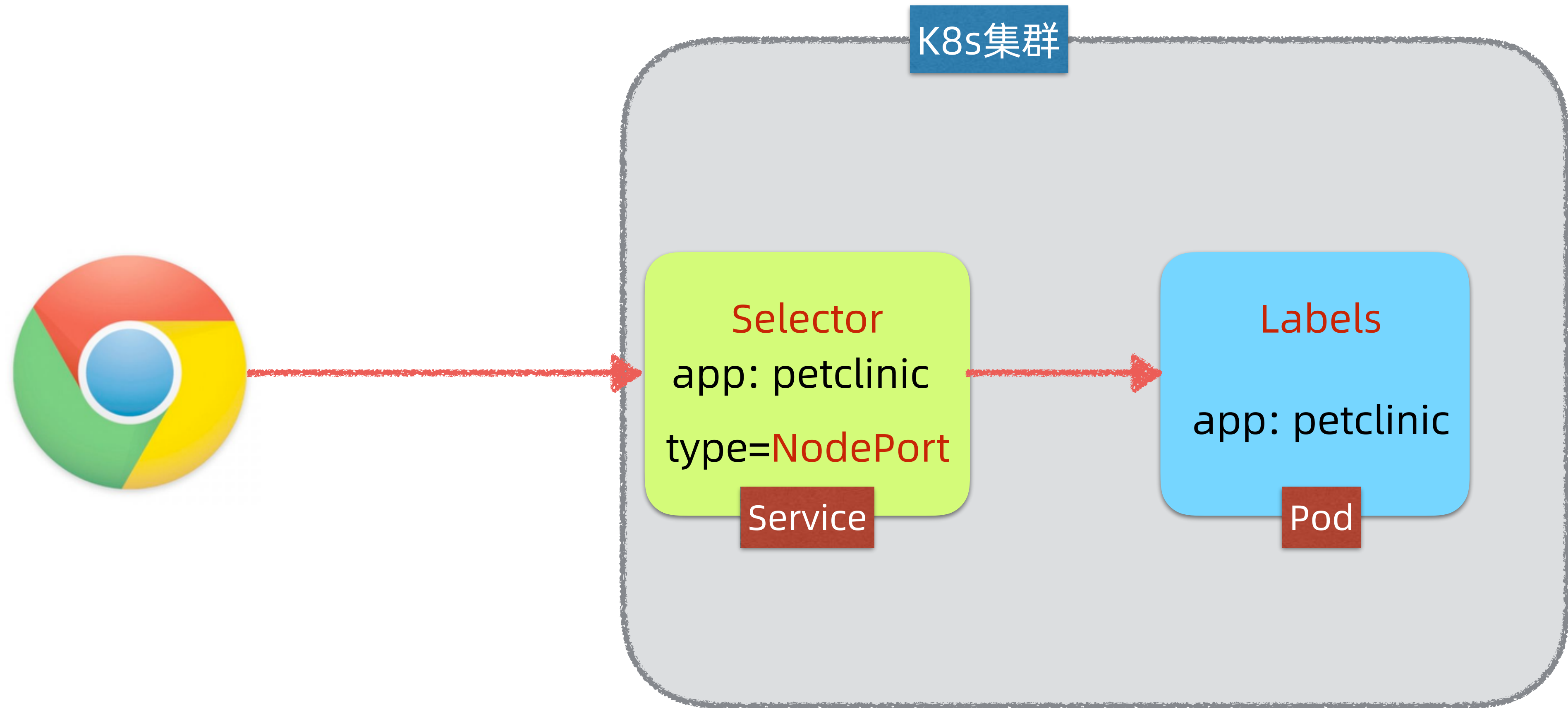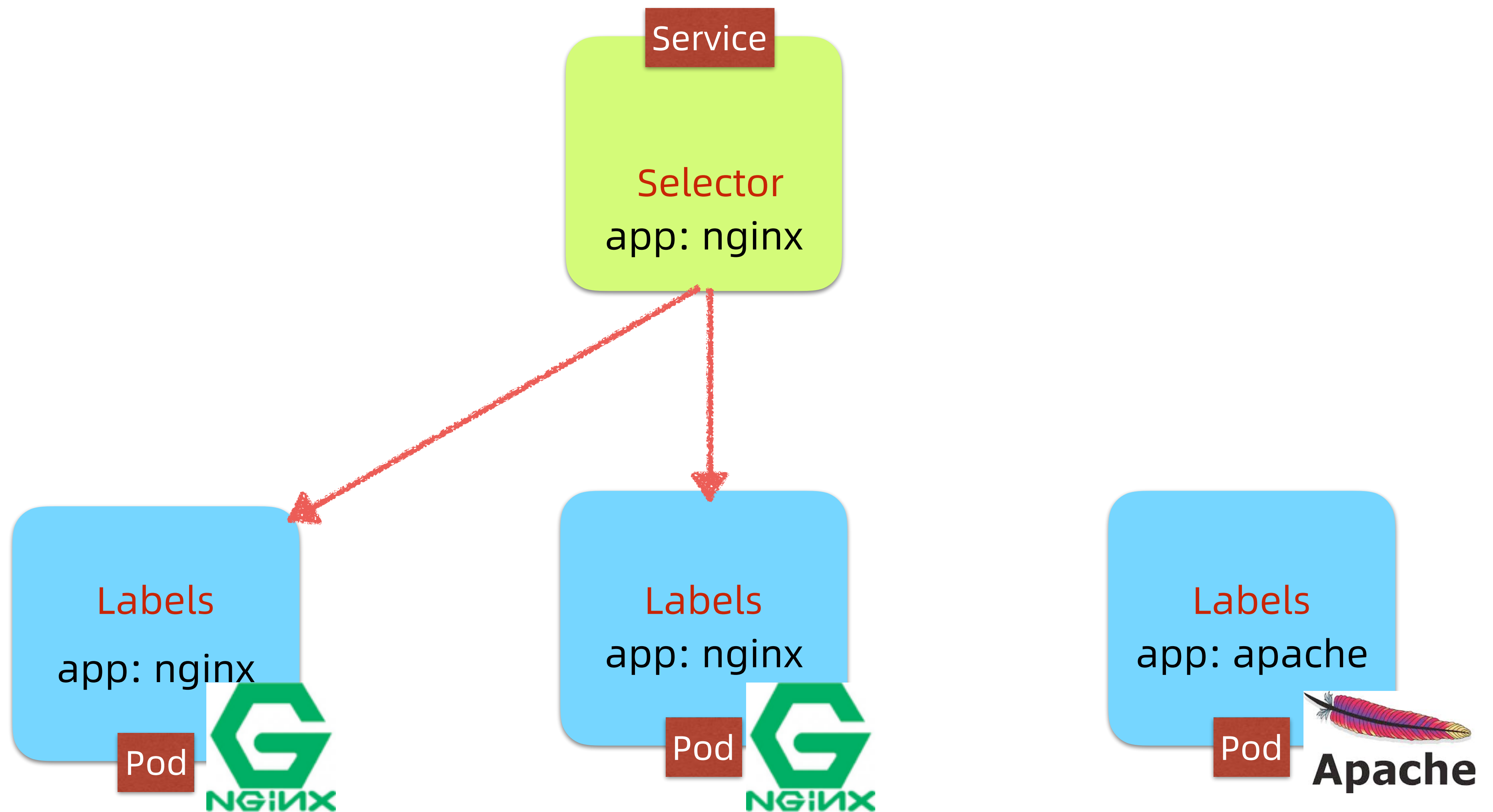
Service Type = LoadBalancer   Service Type = ClusterIP

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
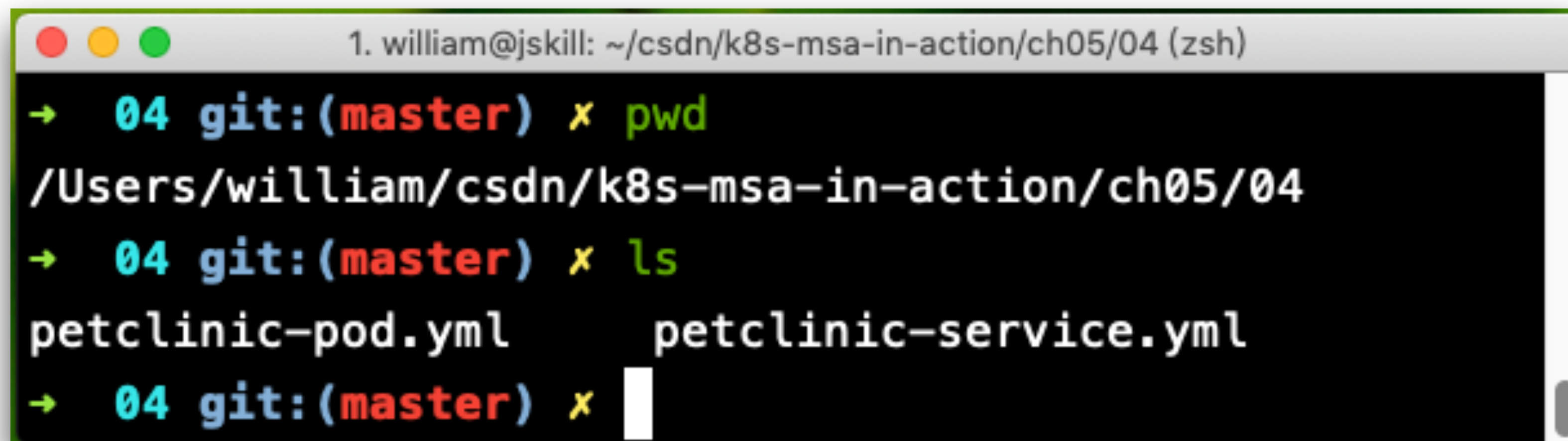
PetClinic Service发布规范

NodePort范围: 30000 ~ 32767

```yaml
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

```yaml
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

发布Service和Pod


```
→  04 git:(master) ✗ 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) ✗ kubectl apply -f .
pod/petclinic created
service/petclinic created
→  04 git:(master) ✗ 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) ✗
```

查看Service资源详情

PetClinic应用成功运行

清理环境

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