To implement a **Blue-Green Deployment Strategy** without using a service mesh, you can use **Kubernetes with Ingress and NGINX** to manage traffic between two versions of your application (amitow/nginx:v1 and amitow/nginx:v2). Below is an overview of how to achieve this:

**1. Deploy the Blue (v1) and Green (v2) Versions**

You need two separate deployments:

* **Blue Deployment (Current version)**
* **Green Deployment (New version)**

**Deployment for Blue (v1)**

apiVersion: apps/v1

kind: Deployment

metadata:

name: blue-nginx

spec:

replicas: 2

selector:

matchLabels:

app: nginx

version: blue

template:

metadata:

labels:

app: nginx

version: blue

spec:

containers:

- name: nginx

image: amitow/nginx:v1

ports:

- containerPort: 80

**Deployment for Green (v2)**

apiVersion: apps/v1

kind: Deployment

metadata:

name: green-nginx

spec:

replicas: 2

selector:

matchLabels:

app: nginx

version: green

template:

metadata:

labels:

app: nginx

version: green

spec:

containers:

- name: nginx

image: amitow/nginx:v2

ports:

- containerPort: 80

**2. Create Separate Services for Both Versions**

Both deployments need separate services.

**Service for Blue**

apiVersion: v1

kind: Service

metadata:

name: blue-service

spec:

selector:

app: nginx

version: blue

ports:

- protocol: TCP

port: 80

targetPort: 80

**Service for Green**

apiVersion: v1

kind: Service

metadata:

name: green-service

spec:

selector:

app: nginx

version: green

ports:

- protocol: TCP

port: 80

targetPort: 80

**3. Use an Ingress to Control Traffic Switching**

The **Ingress resource** will route traffic either to blue-service (v1) or green-service (v2).

**Ingress Routing to Blue (Initially)**

apiVersion: networking.k8s.io/v1

kind: Ingress

metadata:

name: blue-green-ingress

spec:

rules:

- host: your-app.example.com

http:

paths:

- path: /

pathType: Prefix

backend:

service:

name: blue-service # Initially pointing to BLUE version

port:

number: 80

**4. Switching Traffic to Green**

Once green-service (v2) is tested and ready, update the **Ingress** to route traffic to it.

**Update Ingress to Route Traffic to Green**

apiVersion: networking.k8s.io/v1

kind: Ingress

metadata:

name: blue-green-ingress

spec:

rules:

- host: your-app.example.com

http:

paths:

- path: /

pathType: Prefix

backend:

service:

name: green-service # Now pointing to GREEN version

port:

number: 80

**5. Rollback (If Needed)**

If something goes wrong, simply revert the Ingress to route traffic back to blue-service.