Deployment Strategies

Deployment Strategies

- It is a way to change or upgrade an application

Rollout:

Update server with new version

Rollback:

Revert recently updated servers back to previous

Recreate:

- Terminate all running instances and recreate with new version.
- Users experience downtime
- Can be fast * simple
- Rollback is not possible
- Ideal for non-production workloads

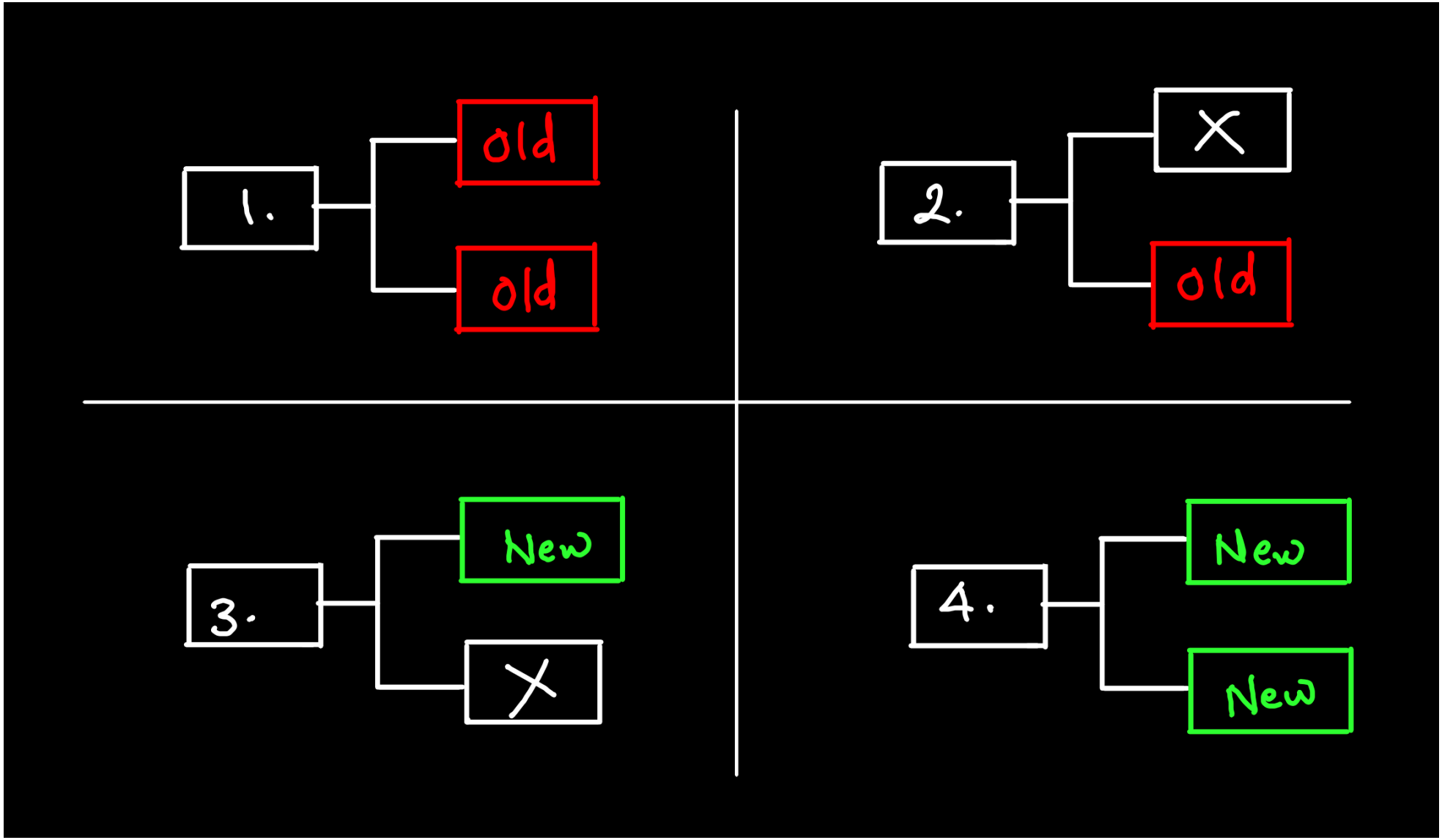
```
spec:
    replicas: 3
```

```
    strategy:
        type: Recreate
```

Rolling Updates:

- Rolling updates slowly replace pod one by one
- This is default strategy of Kubernetes
- Reduced availability might happen
- Rollback are slow and hard
- Deploys will be slow

```
spec:
    replicas: 3
    strategy:
        type: RollingUpdate
        rollingUpdate:
            maxSurge: 2
            maxUnavailable: 0
```

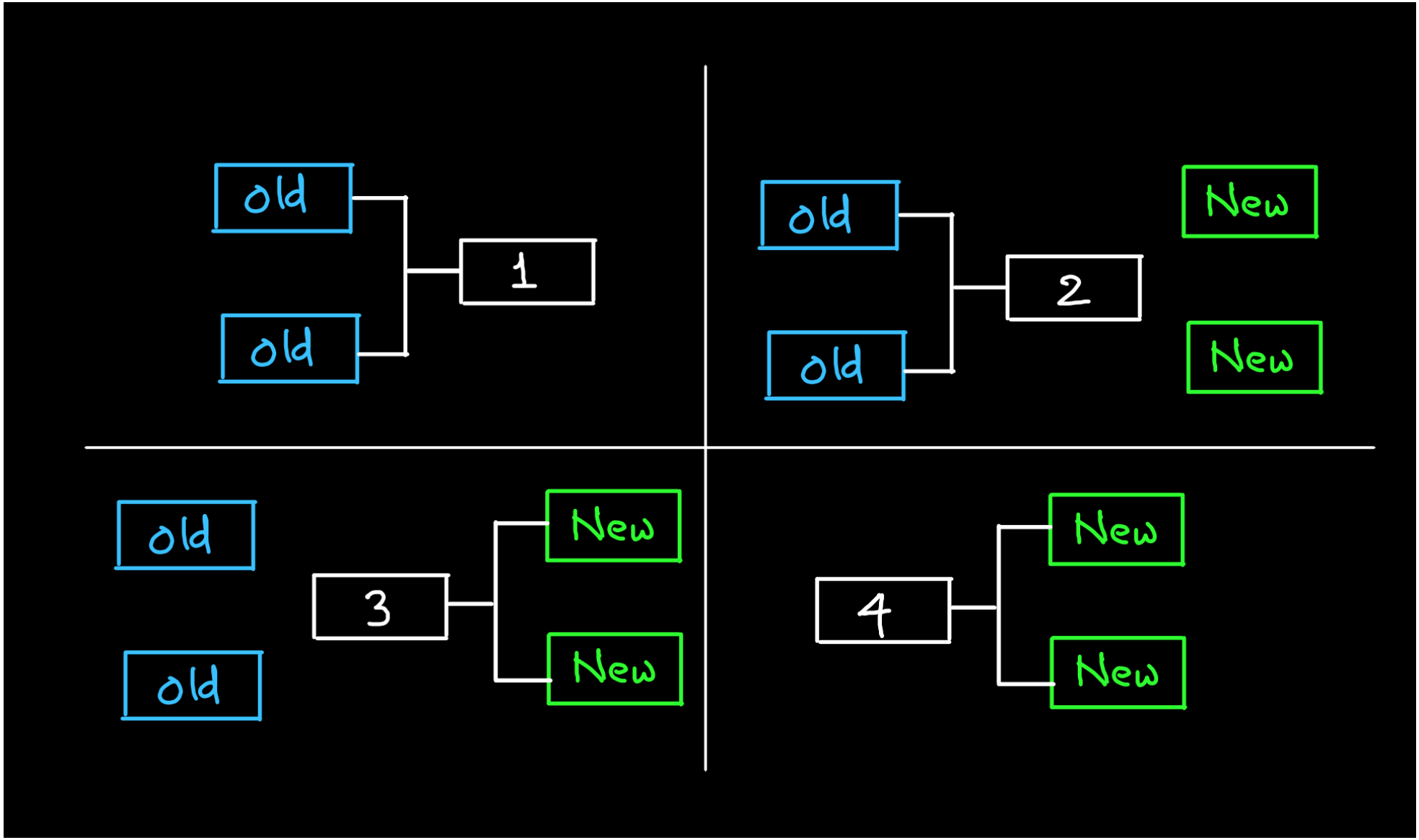

1.
old
old
2.
X
old
3.
New
X
4.
New
New

Canary:

- Deploy a new version of app into new pod and serve it to a subset of existing users
- If no-bug then replace old pods
- Fast rollout
- Slow rollback
- No drop in availability

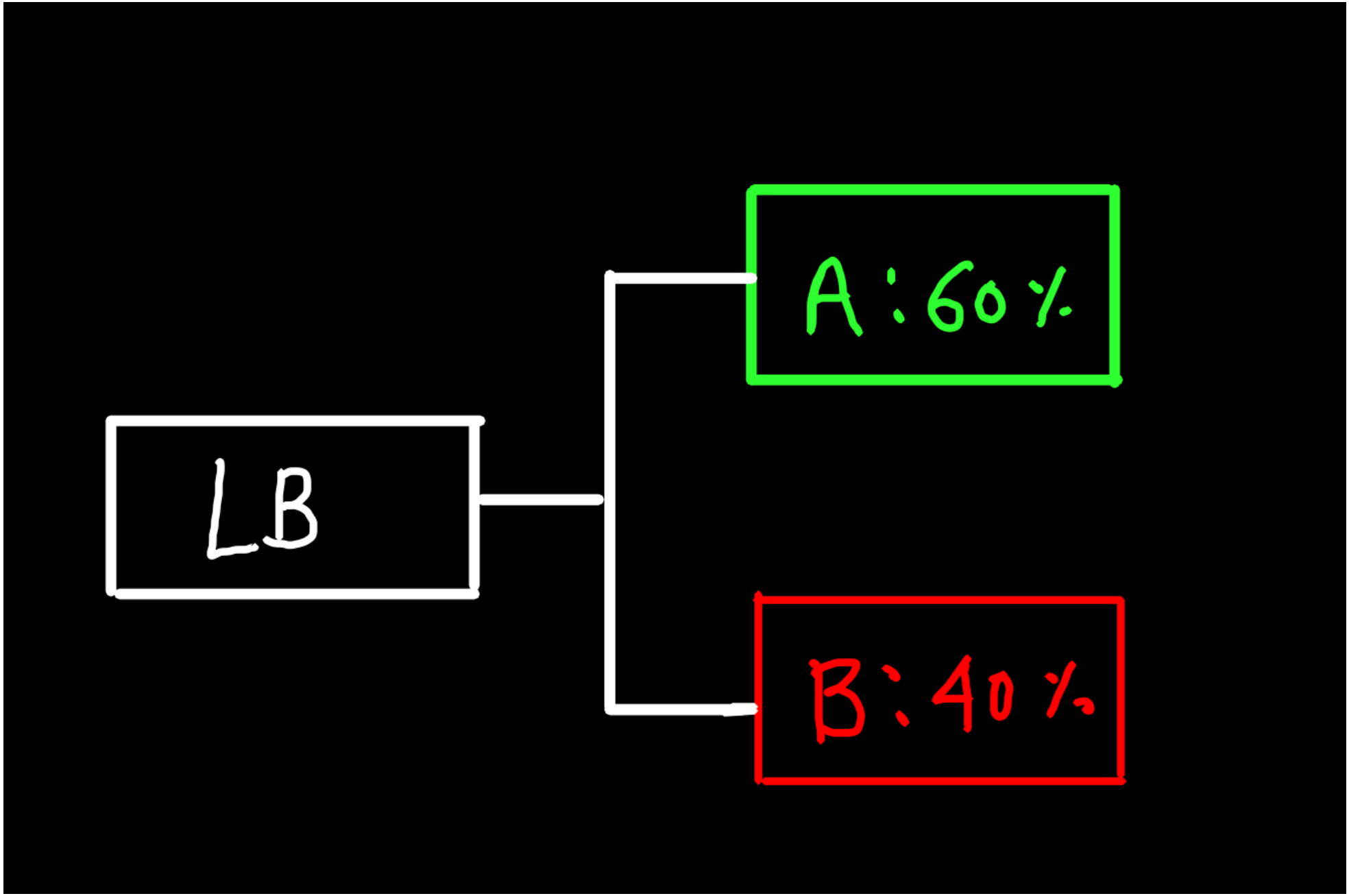
Blue Green:

- Completely create a new environment of all compnents
- Send traffic to new environment if okay then terminate old (blue)
- Gree are new env
- Blue are old env
- Zero downtime
- No reduced availability
- Slow to deploy but faster than canary
- Instantly rollback to previous infra


old
old
1
old
old
2
New
New
old
old
3
New
New
4
New
New

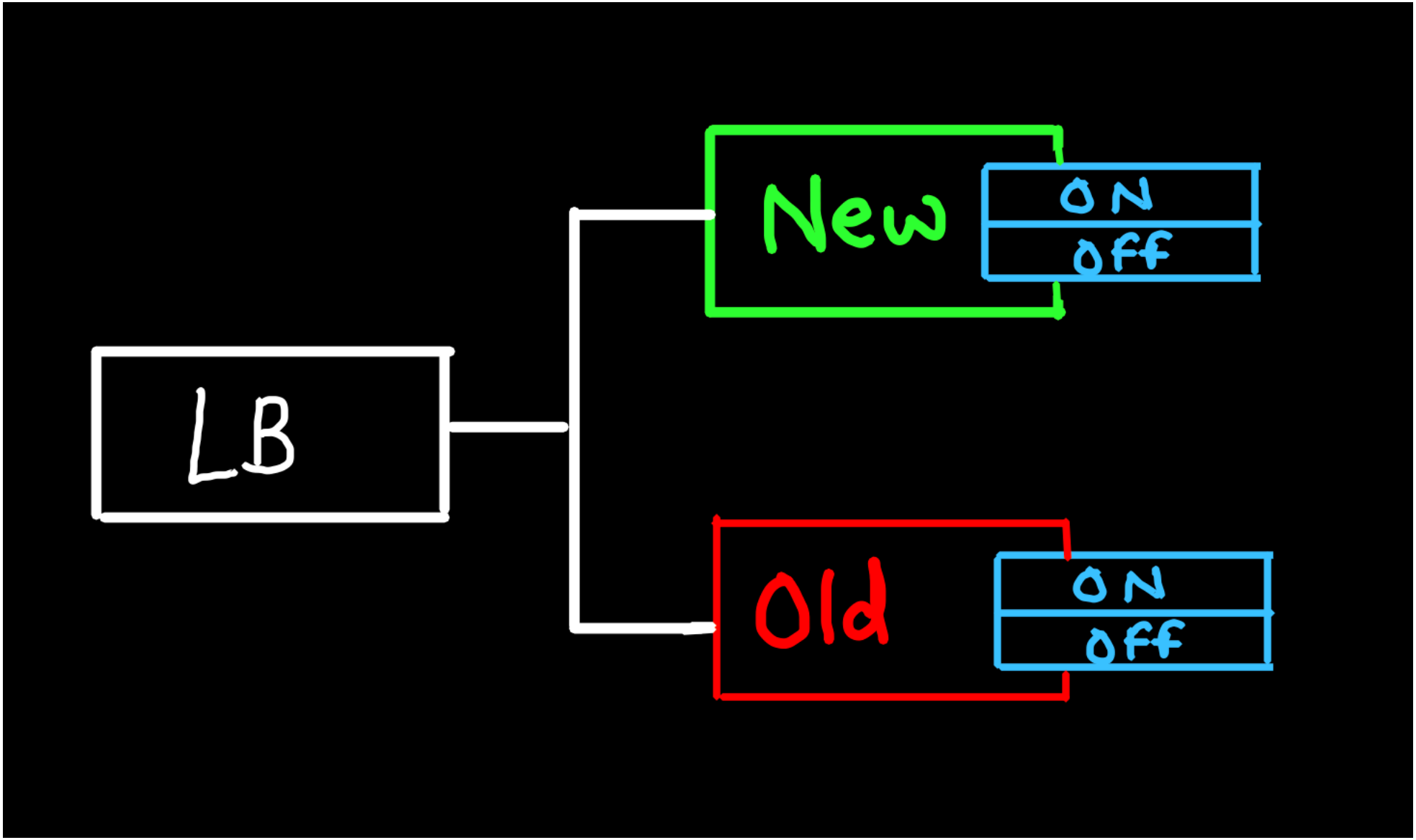
A:B testing or Red/Black

- Uses canary or Blue Green method of deployment but serves the new app to subset of users based on a set of load balancing rules
- Intentiion for long-period of time


A : 60 %
LB
B : 40 %

Dark Launches:

- Feature on a subset of users
- Turn neew feature on and off


New
ON
OFF
LB
Old
ON
OFF

Commands:

```
kubectl rollout history deploy/<name>
```

```
kubectl rollout status deploy/<name>
```

```
kubectl rollout undo deploy/<name>
```