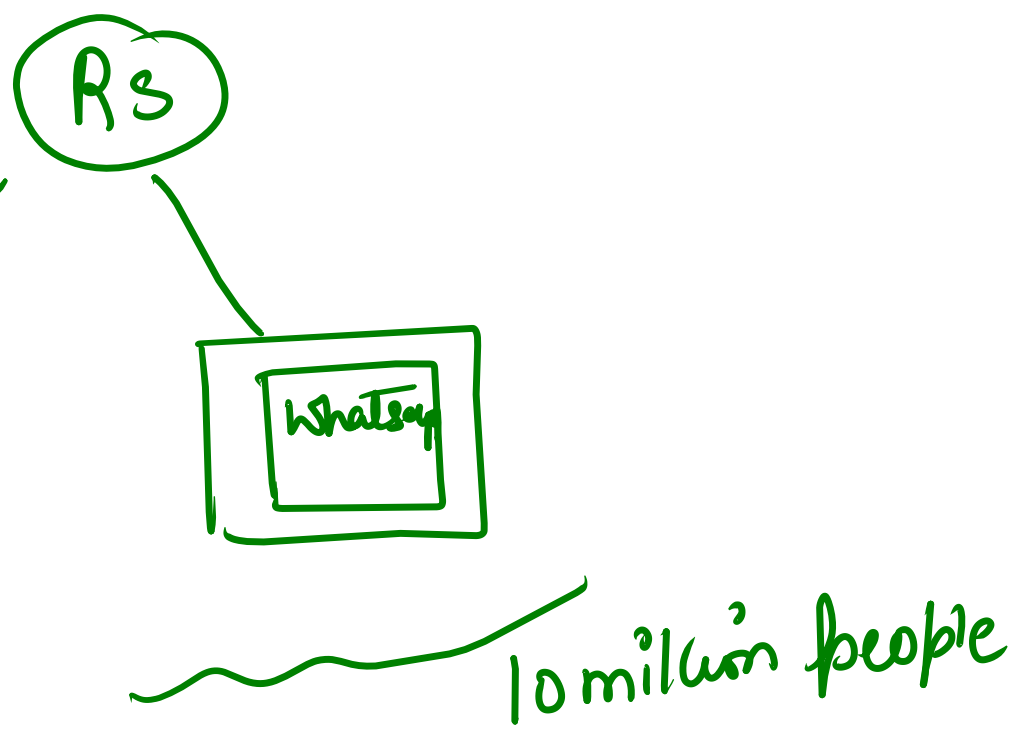
controller which ensures that desired number of pods
are always present like same as replica set.
but it comes with added features of roll back and
rolling updates

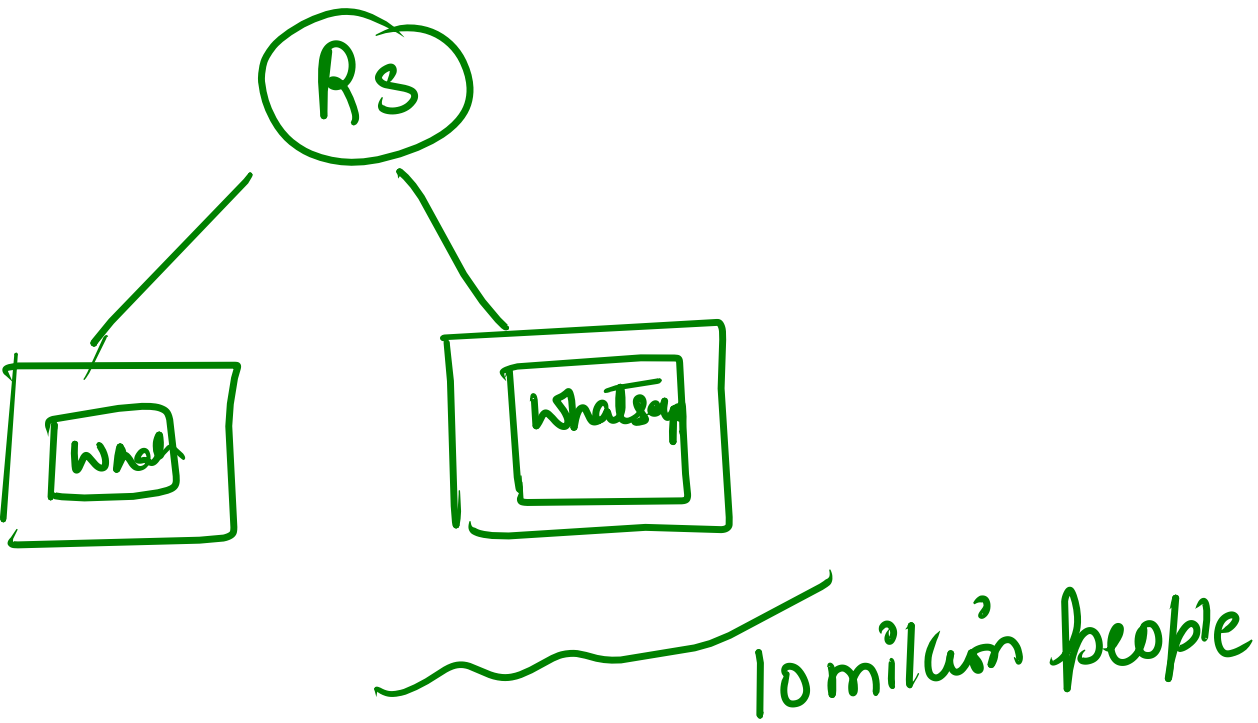
Whatsapp

Chatapp



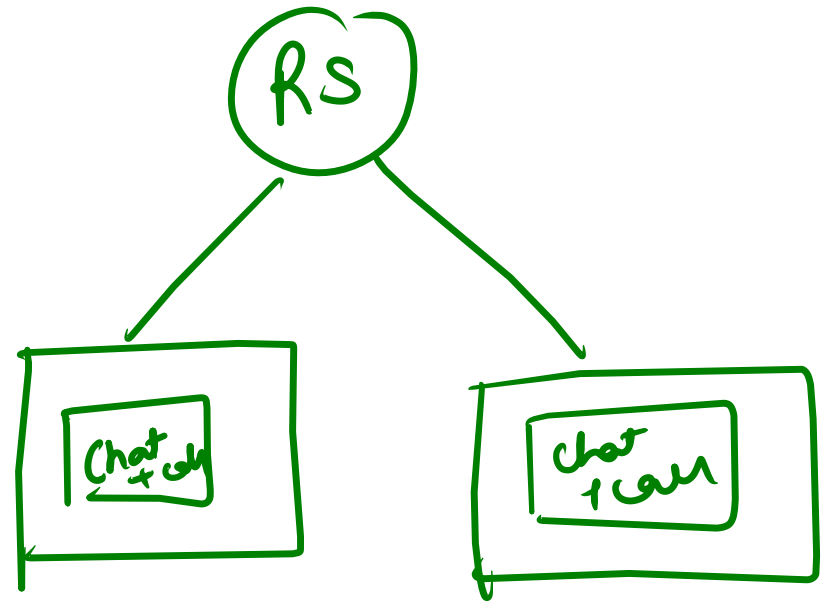
Whatsapp

Chatapp



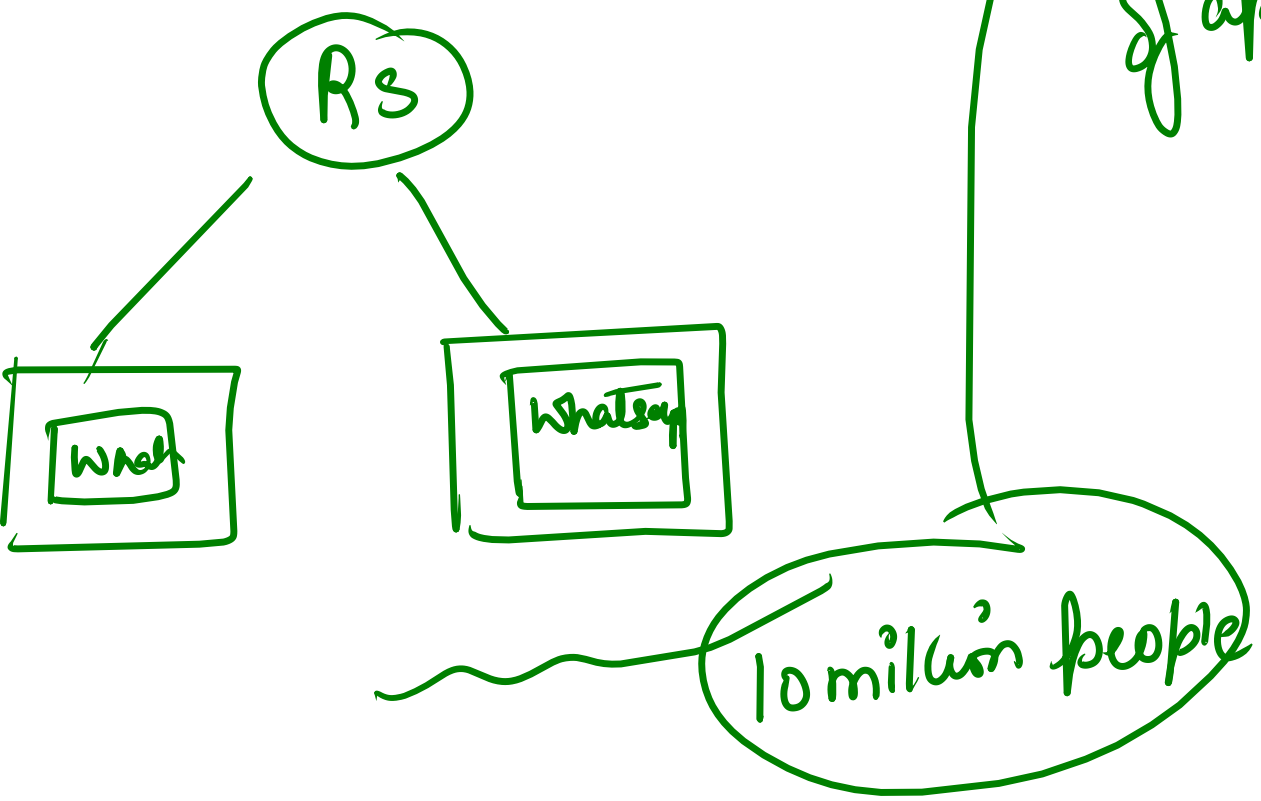
Whatsapp

Chatapp + Calling



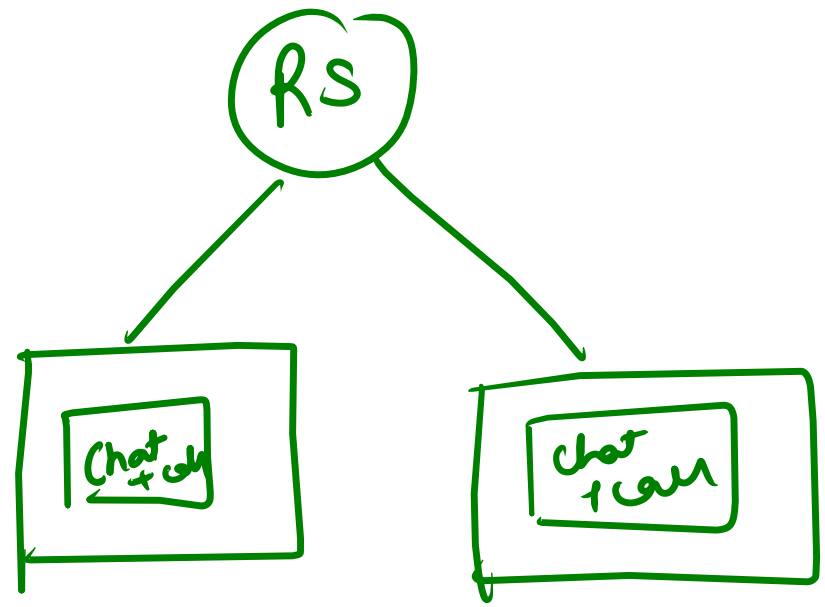
Whatsapp

Chatapp



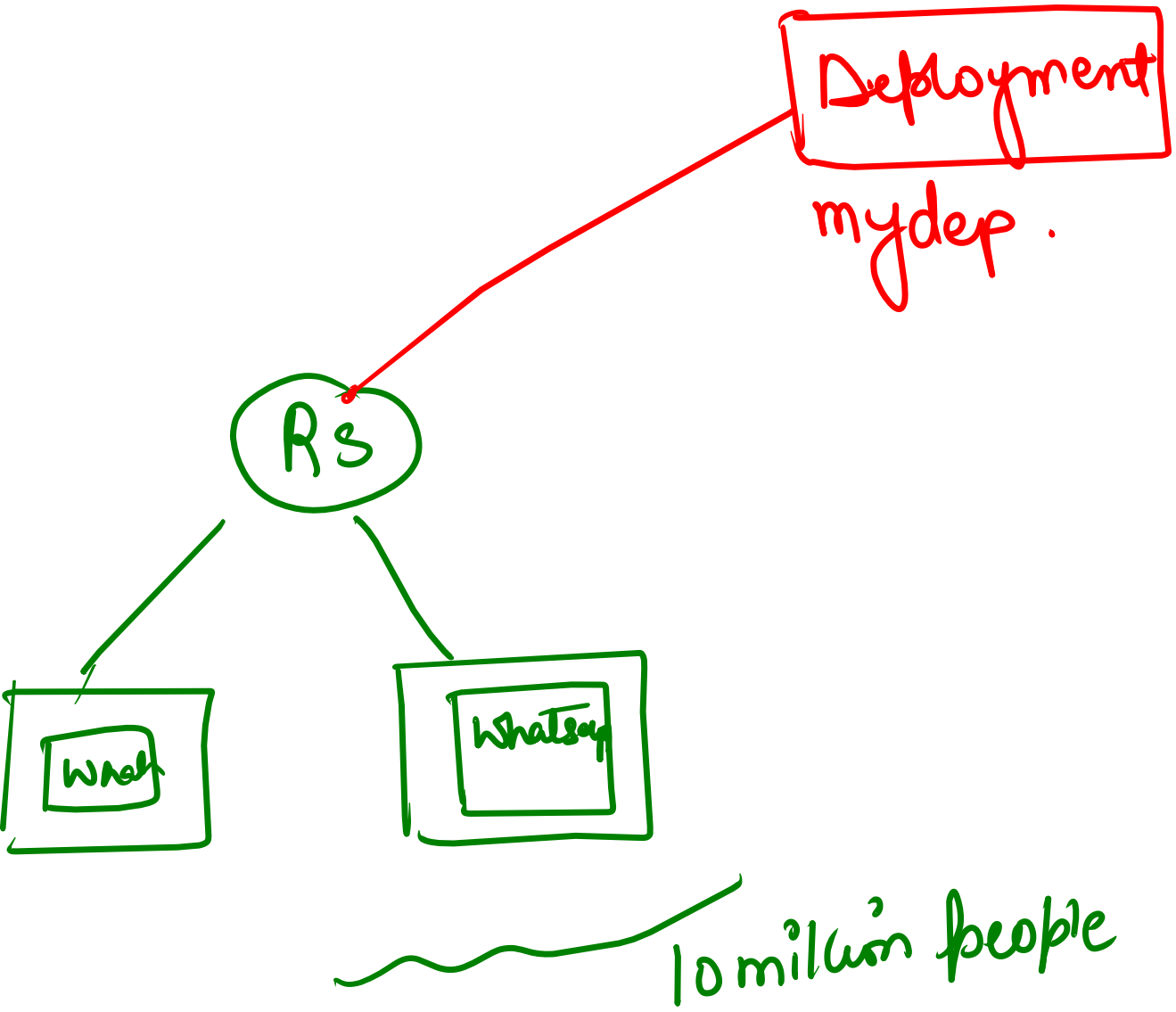
Whatsapp

Chatapp + Calling



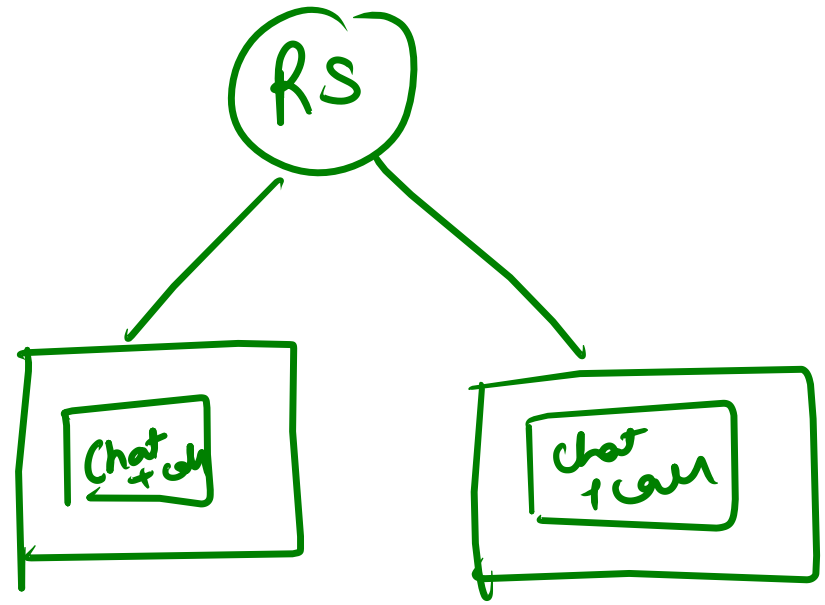
Whatsapp

Chatapp



Whatsapp

Chatapp + Calling



Whatsapp

chatapp

Whatsapp

chatapp + calling

Deployment

mydep.

Rolling updates

RS

desired=0

RS

desired pod = 2

Older podes will automatically Removed

10 milion people

Chat + call

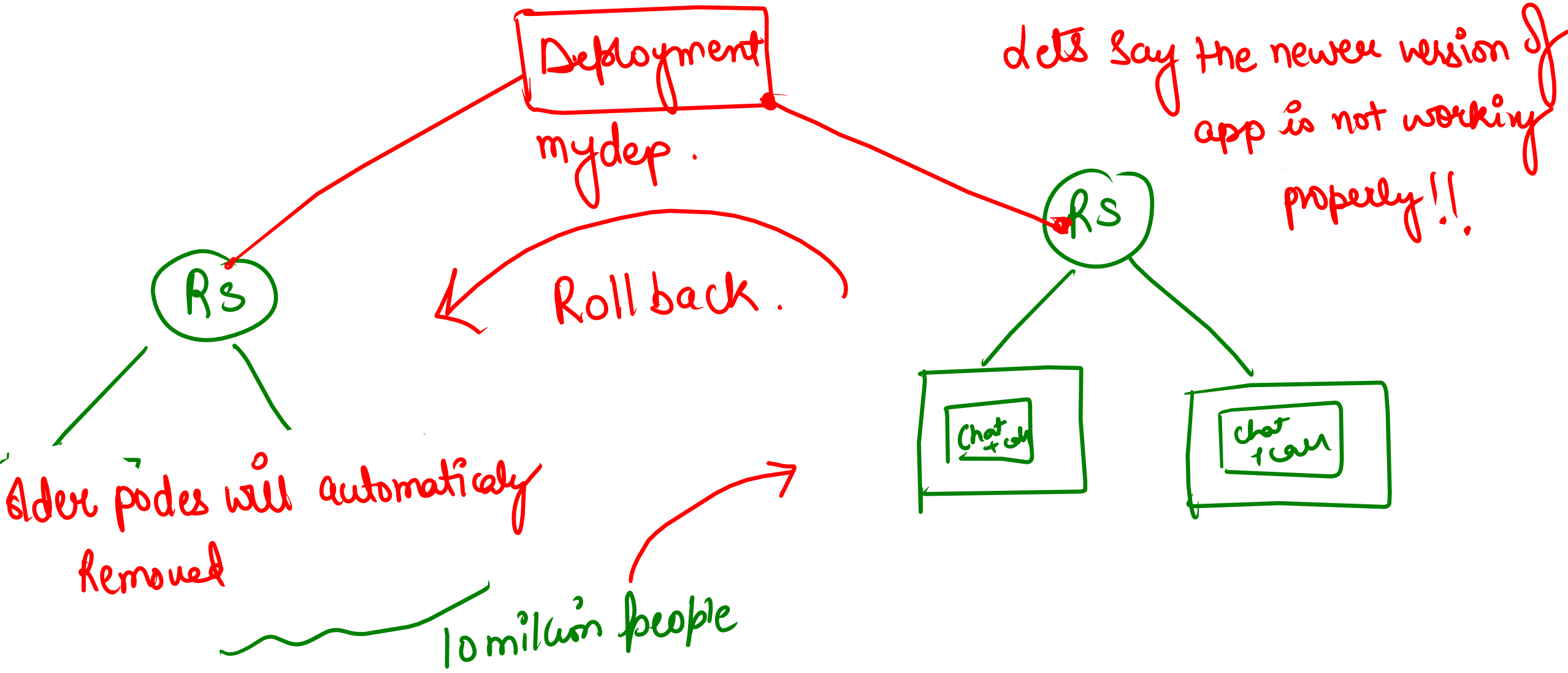
Chat + call

Whatsapp

chatapp

Whatsapp

chatapp + calling



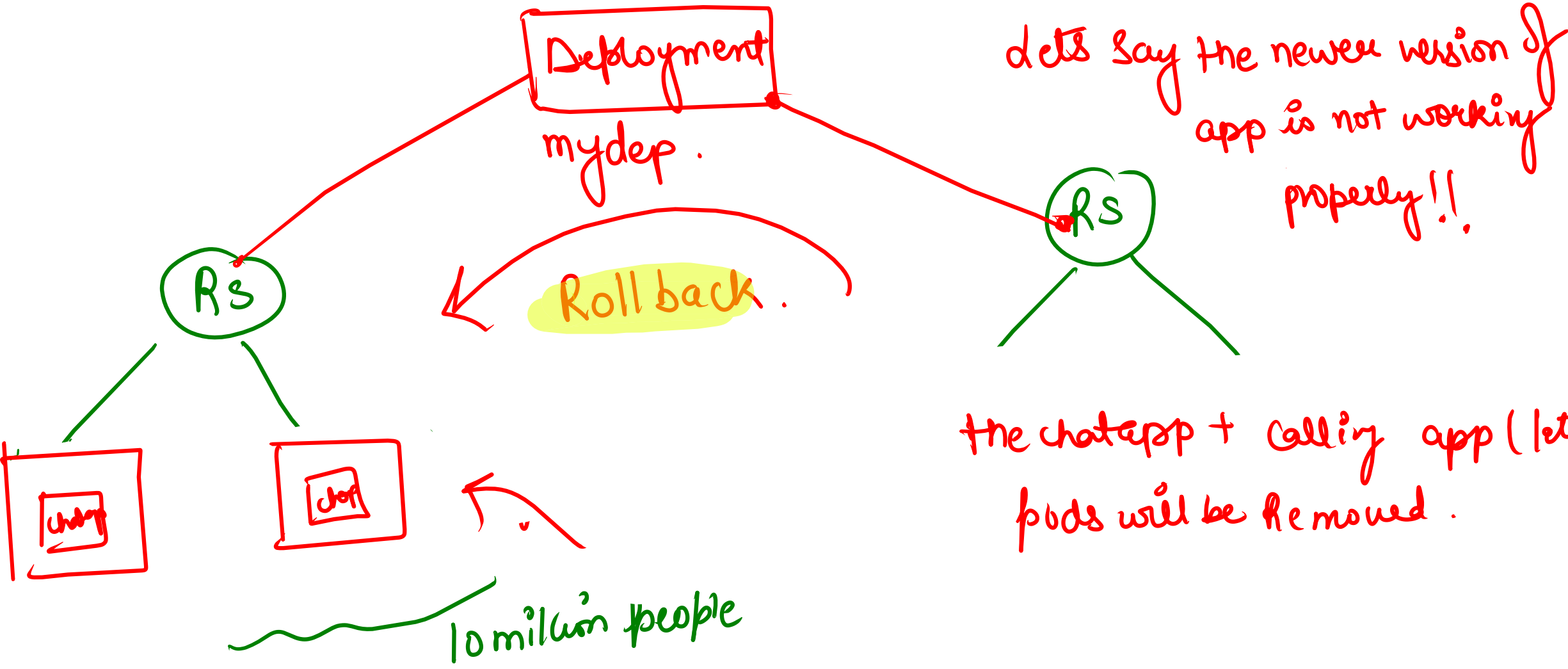
dets say the newer version of app is not working properly!!

Older pods will automatically Removed

10 milion people

Whatsapp

chatapp



Whatsapp

chatapp + Calling

Lets say the newer version of app is not working properly!!

the chatapp + Calling app (latest) pods will be Removed.

vi mydeploy.yml

we are creating a controller which is deployment

```
kind: Deployment
apiVersion: apps/v1
metadata:
  name: mydep
spec:
  replicas: 2
  selector:
    matchLabels:
      name: deployment
  template:
    metadata:
      name: testpod
      labels:
        name: deployment
    spec:
      containers:
        - name: c00
          image: ubuntu
          command: ["/bin/bash", "-c","while true; do echo hello world; sleep 5; done"]
~
```

deployment name

desired would be 2 Replicapods.

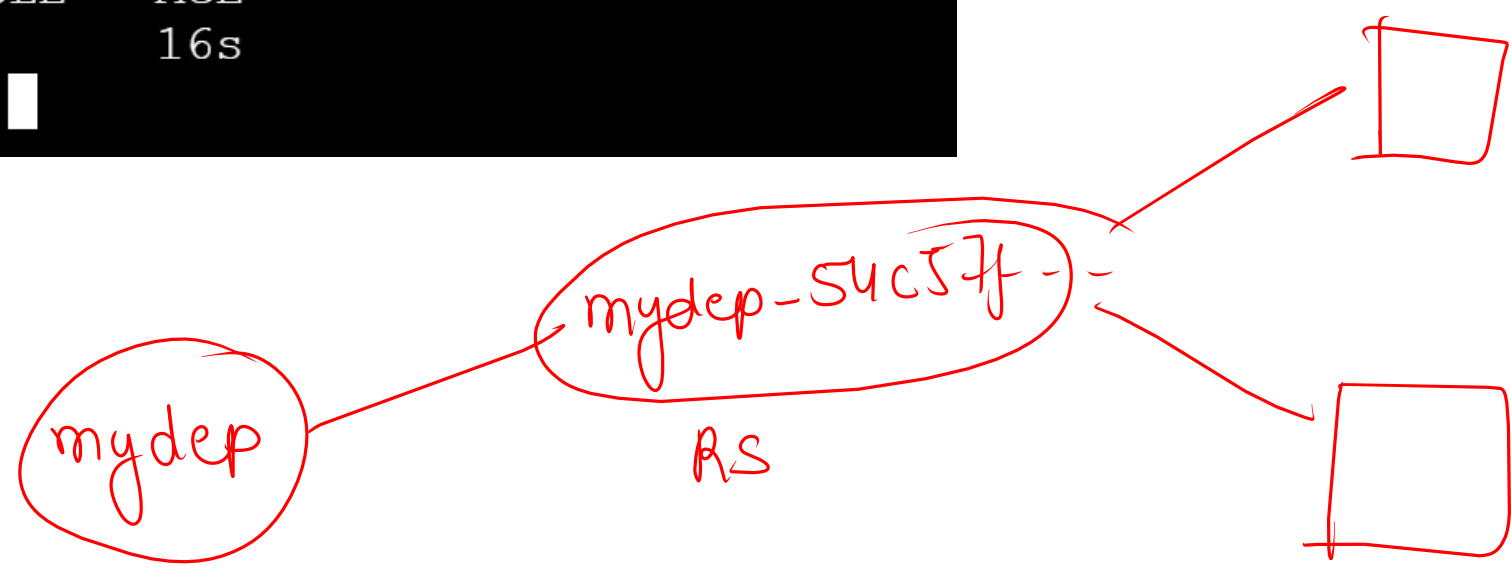
The template from which the pod will be created has label name : deployment

template label

inside the con we are running hello print which will be printed in every 5 seconds ..

```
root@ip-172-31-15-203:/home/ubuntu# kubectl apply -f mydeploy.yml
deployment.apps/mydep created
root@ip-172-31-15-203:/home/ubuntu# kubectl get pods
NAME                     READY   STATUS    RESTARTS   AGE
mydep-54c57f8d57-9htl9   1/1     Running   0          6s
mydep-54c57f8d57-rwphw   1/1     Running   0          6s
root@ip-172-31-15-203:/home/ubuntu# kubectl get rs
NAME               DESIRED   CURRENT   READY   AGE
mydep-54c57f8d57   2         2         2       10s
root@ip-172-31-15-203:/home/ubuntu# kubectl get deploy
NAME    READY   UP-TO-DATE   AVAILABLE   AGE
mydep   2/2     2            2           16s
root@ip-172-31-15-203:/home/ubuntu#
```

get the list of replicaset



```
root@ip-172-31-15-203:/home/ubuntu# kubectl logs -f mydep-54c57f8d57-9htl9
hello world
hello world
hello world
hello world
hello world
hello world
hello world
hello world
hello world
hello world
hello world
hello world
```

pod name

To see the logs running in pod

Press ctrl c to $ come out

Now we will launch the new version of the app :

```
buntu# vi mydep1.yml
```

```yaml
kind: Deployment
apiVersion: apps/v1
metadata:
  name: mydep
spec:
  replicas: 2
  selector:
    matchLabels:
      name: deployment
  template:
    metadata:
      name: testpod1
      labels:
        name: deployment
    spec:
      containers:
        - name: c00
          image: ubuntu
          command: ["/bin/bash", "-c","while true; do echo hi i am teaching k8s; sleep 5; done"]
```

Remain the same

now in this version of app we are running hi i am teaching k8s

```
root@ip-172-31-15-203:/home/ubuntu# kubectl apply -f mydep1.yml
deployment.apps/mydep configured
root@ip-172-31-15-203:/home/ubuntu# kubectl get rs
NAME                DESIRED   CURRENT   READY   AGE
mydep-54c57f8d57    0         0         0       6m4s
mydep-846f66bb7f    2         2         2       7s
root@ip-172-31-15-203:/home/ubuntu# kubectl get deploy
NAME    READY   UP-TO-DATE   AVAILABLE   AGE
mydep   2/2     2            2           6m13s
root@ip-172-31-15-203:/home/ubuntu# kubectl get pods
NAME                     READY   STATUS        RESTARTS   AGE
mydep-54c57f8d57-9htl9   1/1     Terminating   0          6m17s
mydep-54c57f8d57-rwphw   1/1     Terminating   0          6m17s
mydep-846f66bb7f-4tdc2   1/1     Running       0          17s
mydep-846f66bb7f-85988   1/1     Running       0          20s
root@ip-172-31-15-203:/home/ubuntu#
```

older Replica set for which desired is changed to zero

```
root@ip-172-31-15-203:/home/ubuntu# kubectl logs -f mydep-846f66bb7f-4tdc2
hi i am teaching k8s
hi i am teaching k8s
hi i am teaching k8s
hi i am teaching k8s
hi i am teaching k8s
hi i am teaching k8s
hi i am teaching k8s
hi i am teaching k8s
hi i am teaching k8s
hi i am teaching k8s
hi i am teaching k8s
```

to scale the number of pods

kubectl scale --replicas=50 deploy mydep

```
root@ip-172-31-15-203:/home/ubuntu# kubectl get pods
NAME                     READY   STATUS              RESTARTS   AGE
mydep-846f66bb7f-48vjh   0/1     ContainerCreating   0          4s
mydep-846f66bb7f-4dzbf   0/1     ContainerCreating   0          4s
mydep-846f66bb7f-4kmfv   0/1     ContainerCreating   0          3s
mydep-846f66bb7f-4q25f   0/1     ContainerCreating   0          4s
mydep-846f66bb7f-4tdc2   1/1     Running             0          2m44s
mydep-846f66bb7f-4vt8p   0/1     ContainerCreating   0          4s
mydep-846f66bb7f-55mlk   0/1     ContainerCreating   0          3s
mydep-846f66bb7f-57t97   0/1     ContainerCreating   0          4s
mydep-846f66bb7f-5kffm   0/1     ContainerCreating   0          4s
mydep-846f66bb7f-67g5q   0/1     ContainerCreating   0          3s
mydep-846f66bb7f-69gn7   0/1     ContainerCreating   0          3s
mydep-846f66bb7f-69rsj   0/1     ContainerCreating   0          4s
mydep-846f66bb7f-6ccpg   0/1     ContainerCreating   0          4s
mydep-846f66bb7f-7cfj6   0/1     ContainerCreating   0          4s
mydep-846f66bb7f-85988   1/1     Running             0          2m47s
mydep-846f66bb7f-8hvpm   0/1     ContainerCreating   0          4s
mydep-846f66bb7f-8ssj2   0/1     ContainerCreating   0          3s
mydep-846f66bb7f-9j5l8   0/1     ContainerCreating   0          3s
mydep-846f66bb7f-b52jl   0/1     ContainerCreating   0          4s
mydep-846f66bb7f-d4wvt   0/1     ContainerCreating   0          4s
```

kubectl scale --replicas=2 deploy mydep

suppose i want to roll back to any previous stable version

```
root@ip-172-31-15-203:/home/ubuntu# kubectl rollout history deployment/mydep
deployment.apps/mydep
REVISION  CHANGE-CAUSE
1         <none>
2         <none>

root@ip-172-31-15-203:/home/ubuntu# kubectl rollout undo deployment/mydep --to-revision=1
deployment.apps/mydep rolled back
root@ip-172-31-15-203:/home/ubuntu#
```

complete history of rollout can be checked

It you want to rollback to any specific version

if you dont put --to-revision then it will rollback to previous version.

```
root@ip-172-31-15-203:/home/ubuntu# kubectl get pods
NAME                     READY   STATUS    RESTARTS   AGE
mydep-54c57f8d57-9hj69   1/1     Running   0          90s
mydep-54c57f8d57-txbw9   1/1     Running   0          92s
root@ip-172-31-15-203:/home/ubuntu# kubectl logs -f mydep-54c57f8d57-9hj69
hello world
hello world
hello world
hello world
hello world
hello world
hello world
```

old version