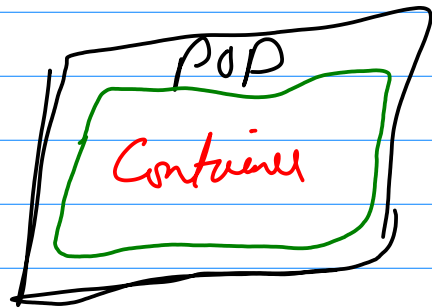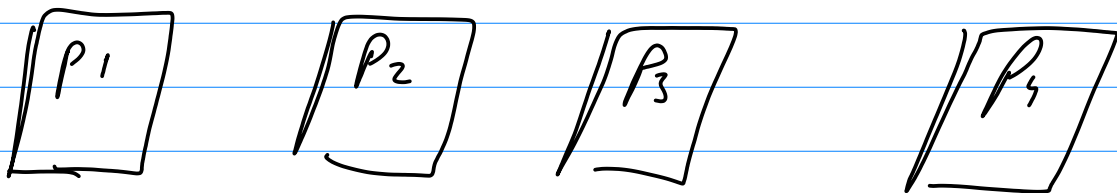# Replica Set :-

- Replica set is a resource like pods
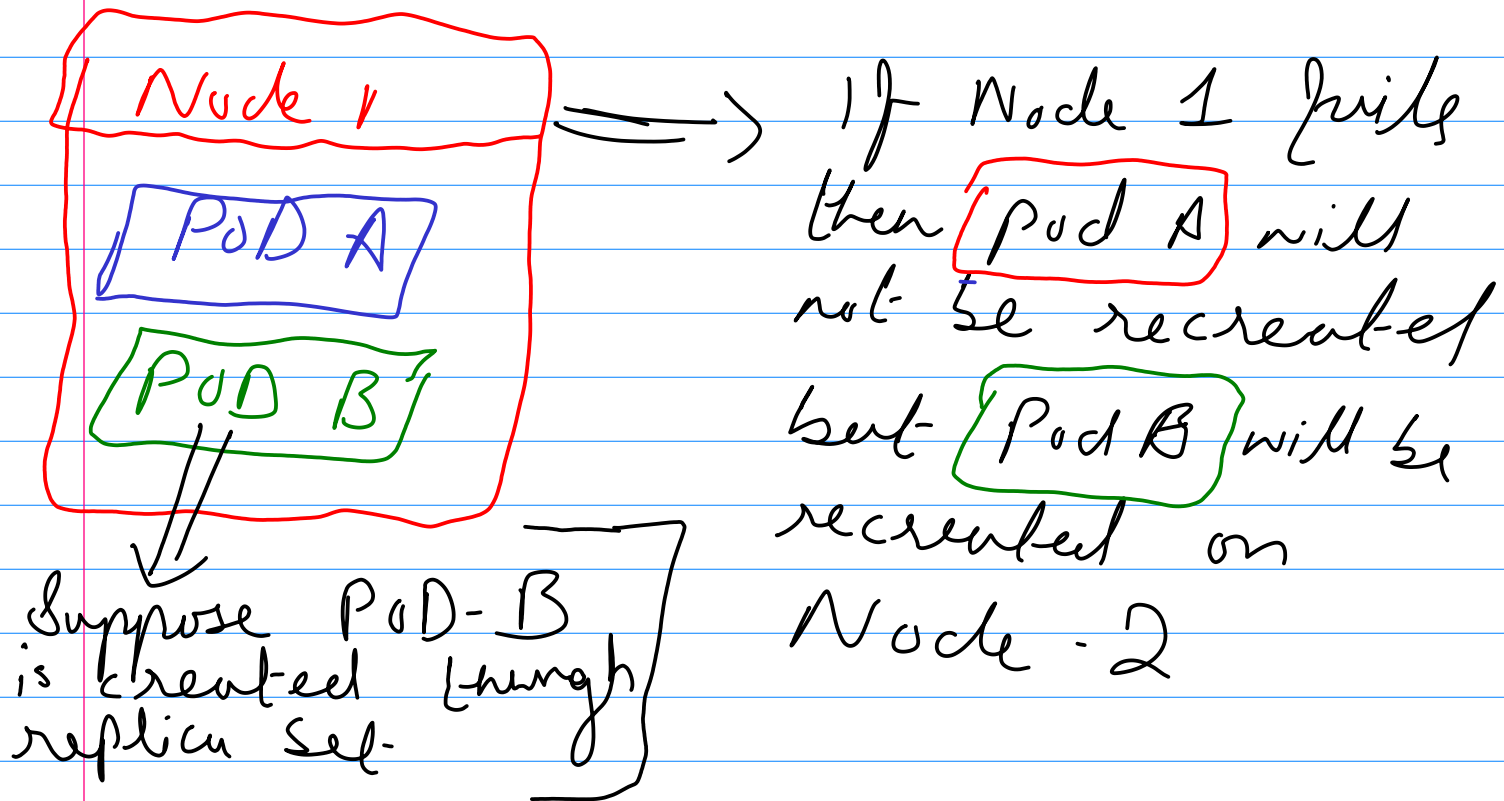- Manage multiple copies of pods

=> Application

Replicas = 4

There will be 4 pods

Suppose Pod-4 crashes

Replica Set will automatically create new pod.

Replica Set ensures that pod is always running.

Node 1 → If Node 1 fails then [Pod A] will not be recreated but [Pod B] will be recreated on Node 2

Pod A

Pod B

Suppose POD-B is created through replica set.

Replica Set has 3 essential parts.

→ Label Selector

→ Replica Count

→ Pod template

- Demo

1) Creating Replica Set
2) Delete Pod
3) Change label of pod

If you want to delete all pods

◊ delete replica set.

◊ If you want to keep pods
   & you just want to delete
   replica set

⟶ Kubectl delete rs myrs ← name
   --cascade = false

⟶ Scaling Replicas

Kubectl scale rs myrs --replicas=5

Advantages :-

* ✓ High Availability
* ⚙ Load Balancing

Job :-

- Job is a resource in kubernetes.
- It's basically a pod which we create under the type (kind : job)
- A job resource is used to create a pod which terminates automatically when the defined job of that pod successfully completed.

Job :-

```
kind: Job
apiVersion: batch/v1
metadata:
  name: myjob
spec:
  template:
    spec:
      containers:
      - name: job-container
        image: usama9876/firstdocker-app
        ports:
        - containerPort: 80
      restartPolicy: Never
  backoffLimit: 4
  activeDeadlineSeconds: 120
```

Restart Policy
On Failure/Never

It will try
to create Pod
4 times

Never ===> It will not restart container
It will create another pod
& then create container
& try to complete the
job.

Cron Job:-

* CronJob is used to schedule job at later time & can be set to initiate the job again on provided time gap

Example =====> Daily Backups

Cron Job

   └> creates Job resource & then pod.

Cron Job :.

```
kind: CronJob
apiVersion: batch/v1
metadata:
  name: mycronjob
spec:
  schedule: "* * * * *"
  jobTemplate:
    spec:
      template:
        spec:
          containers:
          - name: job-container
            image: usama9876/firstdocker-app
          restartPolicy: Never
```

Assignment # 2 :.