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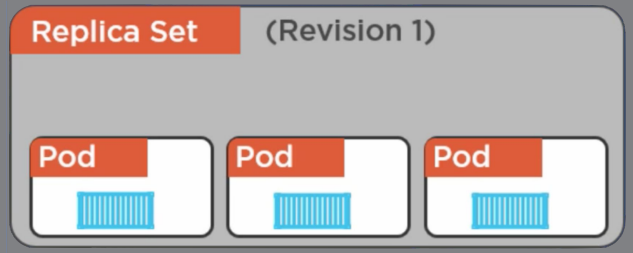
REPLICASETS

Rise of the Containers Workshop

BUT…Pods are never used directly

Why not use just Pods ?

- Reliability
- Load balancing
- Scaling

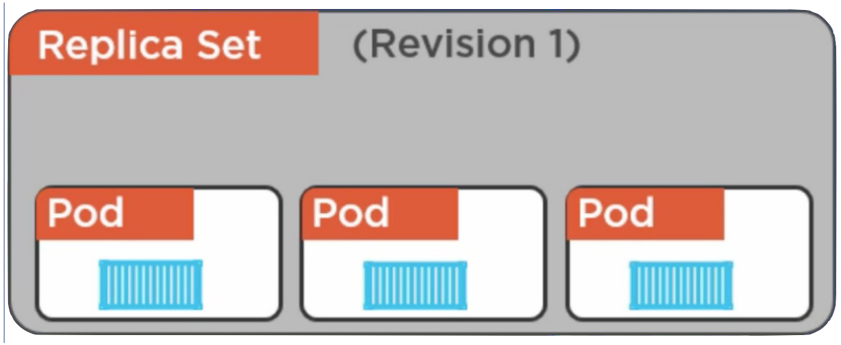


ReplicaSet

A ReplicaSet ensures that a specified number of pod replicas are running at any given time. ReplicaSet is the next-generation Replication Controller.

What is Replica Set ?

- Ensures that a Pod or homogeneous set of Pods are always available.
- Maintains the desired number of Pods
  - If there are excess pods, they get killed
  - New Pods are launched when they fail or get deleted, terminated
- **Associated with Pods through Labels**



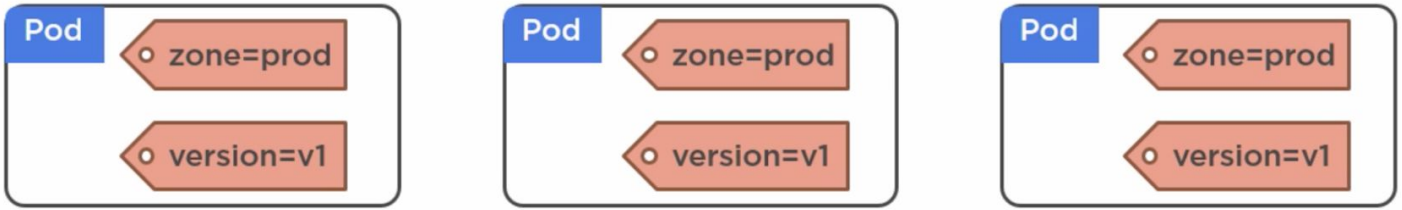
Labels

Labels are key/value pairs that are attached to objects, such as pods

Selectors

Help in identifying objects in K8s cluster.

equality-based **or** set-based



ReplicaSet Demo

Important tag: containers

name
image
command
args
workingDir
ports
env
resources
volumeMounts

livenessProbe
readinessProbe
lifecycle
terminationMessagePath
imagePullPolicy
securityContext
stdin
stdinOnce
tty

Health Check For Containers

- Diagnostic performed periodically by kubelet on Container - Probe
- **livenessProbe**
  - Indicates whether the Container is running.
- **readinessProbe**
  - Indicates whether the Container is ready to service requests

	Liveliness	Readiness
On failure	Kill container	Stop sending traffic to pod
Check types	Http , exec , tcpSocket	Http , exec , tcpSocket
Declaration example (Pod.yaml)	livenessProbe: failureThreshold: 3 httpGet: path: /healthz port: 8080	readinessProbe: httpGet: path: /status port: 8080

HANDS-ON

1. Create Replica Set for the MetaData service Pods
2. Add livenessProbe using spring actuator's default /health endpoint
3. Get Pod Ip with **`kubectl get pod -o wide`** command
4. SSH into minikube and try to access application with POD IP.

THANK YOU

For questions or suggestions:

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