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REPLICASETS
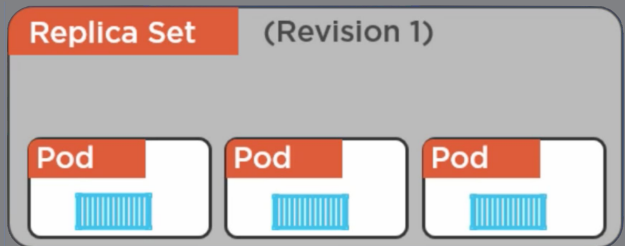
Rise of the Containers Workshop

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.
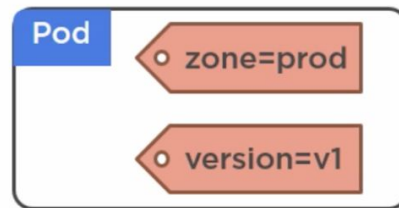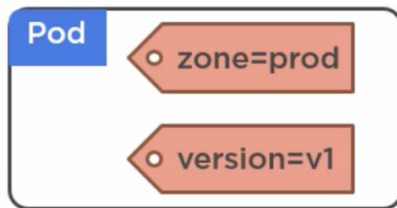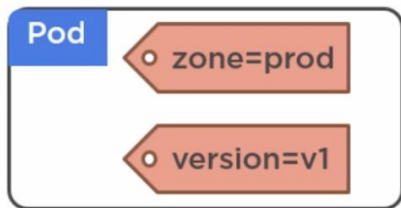
What is Replica Set ?

- 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**
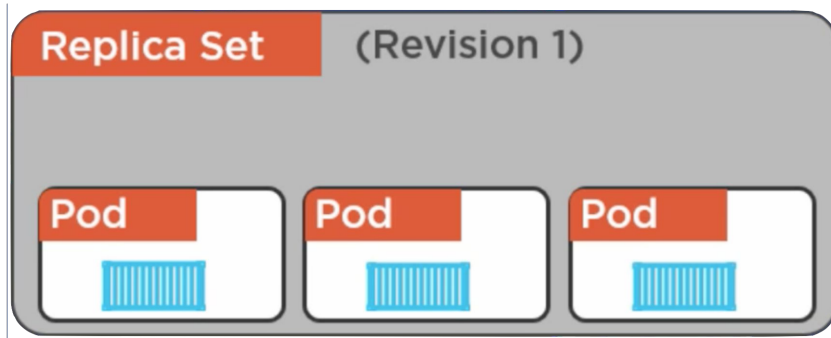
Labels

Selectors

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

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:

Girish Verma

girishv@ThoughtWorks.com

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