# Labels

1. Get familiar with labels/labels-demo.yaml.
2. Change labels in the manifest to proj=mypod, ver=v1.
3. Create a Pod form the file.

Pod Labels  
+demo1 proj=mypod,ver=v1

In this and following steps, check the labels for the Pods by using

$ kubectl get pods --show-labels

1. Create a few Pods more:

$ kubectl run demo2 --image busybox -l proj=mypod,ver=v2 -- sleep 1d  
$ kubectl run demo3 --image busybox -l proj=guess,ver=v10,temp= -- sleep 1d

Current status is:

Pod Labels  
 demo1 proj=mypod,ver=v1  
+demo2 proj=mypod,ver=v2  
+demo3 proj=guess,ver=v10,temp=

1. Change label proj=heroes for Pod demo2.

Pod Labels  
 demo1 proj=mypod,ver=v1  
 demo2 proj=mypod,ver=v2  
-demo3 proj=guess,ver=v10,temp=  
+demo3 proj=heroes,ver=v10,temp=

1. Select pods by labels:

| Selector | Result |
| --- | --- |
| proj=mypod | demo1, demo2 |
| proj=mypod,ver=v1 | demo1 |
| proj!=heroes | demo1, demo2 |

(see next slide for continue)

| Selector | Result |
| --- | --- |
| temp | demo3 |
| !temp | demo1, demo2 |
| proj in (mypod,myrs) | demo1, demo2 |
| proj notin (mypod,myrs) | demo3 |

1. Remove label proj for demo2:

Pod Labels  
 demo1 proj=mypod,ver=v1  
-demo2 proj=mypod,ver=v2  
+demo2 ver=v2  
 demo3 proj=heroes,ver=v10,temp=

1. Clean up:

$ kubectl delete pod -l '!boo'

🤔 Why does it work?

## Solution

1. Get familiar with labels/labels-demo.yaml.

It is pod that does nothing but Pod has two labels.

1. Change labels in the manifest to proj=mypod, ver=v1.

metadata:  
 labels:  
- key1: value1  
- key2: value2  
+ proj: mypod  
+ ver: v1

1. Create a Pod form the file.

$ kubectl create -f labels/labels-demo.yaml  
pod/demo1 created

Pod Labels  
+demo1 proj=mypod,ver=v1

Confirmed that:

$ kubectl get pods --show-labels  
NAME READY STATUS RESTARTS AGE LABELS  
demo1 1/1 Running 0 17s proj=mypod,ver=v1

1. Create a few Pods more:

Pod Labels  
 demo1 proj=mypod,ver=v1  
+demo2 proj=mypod,ver=v2  
+demo3 proj=guess,ver=v10,temp=

$ kubectl run demo2 --image busybox -l proj=mypod,ver=v2 -- sleep 1d  
pod/demo2 created  
  
$ kubectl run demo3 --image busybox -l proj=guess,ver=v10,temp= -- sleep 1d  
pod/demo3 created  
  
$ kubectl get pods --show-labels  
NAME READY STATUS RESTARTS AGE LABELS  
demo1 1/1 Running 0 2m34s proj=mypod,ver=v1  
demo2 1/1 Running 0 29s proj=mypod,ver=v2  
demo3 1/1 Running 0 23s proj=guess,temp=,ver=v10

1. Change label proj=heroes for Pod demo2.

Pod Labels  
 demo1 proj=mypod,ver=v1  
 demo2 proj=mypod,ver=v2  
-demo3 proj=guess,ver=v10,temp=  
+demo3 proj=heroes,ver=v10,temp=

$ kubectl label pod demo3 proj=heroes --overwrite  
pod/demo3 labeled  
  
$ kubectl get pods --show-labels  
NAME READY STATUS RESTARTS AGE LABELS  
demo1 1/1 Running 0 5m49s proj=mypod,ver=v1  
demo2 1/1 Running 0 3m44s proj=mypod,ver=v2  
demo3 1/1 Running 0 3m38s proj=heroes,temp=,ver=v10

1. Select pods by labels:

| Selector | Result |
| --- | --- |
| proj=mypod | demo1, demo2 |
| proj=mypod,ver=v1 | demo1 |
| proj!=heroes | demo1, demo2 |
| temp | demo3 |
| !temp | demo1, demo2 |
| proj in (mypod,myrs) | demo1, demo2 |
| proj notin (mypod,myrs) | demo3 |

$ $ kubectl get pod --show-labels -l proj=mypod  
NAME READY STATUS RESTARTS AGE LABELS  
demo1 1/1 Running 0 7m2s proj=mypod,ver=v1  
demo2 1/1 Running 0 4m57s proj=mypod,ver=v2  
  
$ kubectl get pod --show-labels -l proj=mypod,ver=v1  
NAME READY STATUS RESTARTS AGE LABELS  
demo1 1/1 Running 0 7m10s proj=mypod,ver=v1  
  
$ kubectl get pod --show-labels -l proj!=heroes  
NAME READY STATUS RESTARTS AGE LABELS  
demo1 1/1 Running 0 7m20s proj=mypod,ver=v1  
demo2 1/1 Running 0 5m15s proj=mypod,ver=v2  
  
$ kubectl get pod --show-labels -l temp  
NAME READY STATUS RESTARTS AGE LABELS  
demo3 1/1 Running 0 5m16s proj=heroes,temp=,ver=v10  
  
$ kubectl get pod --show-labels -l '!temp'  
NAME READY STATUS RESTARTS AGE LABELS  
demo1 1/1 Running 0 7m32s proj=mypod,ver=v1  
demo2 1/1 Running 0 5m27s proj=mypod,ver=v2  
  
$ kubectl get pod --show-labels -l 'proj in (mypod,myrs)'  
NAME READY STATUS RESTARTS AGE LABELS  
demo1 1/1 Running 0 7m45s proj=mypod,ver=v1  
demo2 1/1 Running 0 5m40s proj=mypod,ver=v2  
  
$ kubectl get pod --show-labels -l 'proj notin (mypod,myrs)'  
NAME READY STATUS RESTARTS AGE LABELS  
demo3 1/1 Running 0 5m39s proj=heroes,temp=,ver=v10

1. Remove label proj for demo2:

Pod Labels  
 demo1 proj=mypod,ver=v1  
-demo2 proj=mypod,ver=v2  
+demo2 ver=v2  
 demo3 proj=heroes,ver=v10,temp=

$ kubectl label pod demo2 proj-  
pod/demo2 labeled  
  
$ kubectl get pod --show-labels  
NAME READY STATUS RESTARTS AGE LABELS  
demo1 1/1 Running 0 10m proj=mypod,ver=v1  
demo2 1/1 Running 0 8m6s ver=v2  
demo3 1/1 Running 0 8m proj=heroes,temp=,ver=v10

1. Clean up:

$ kubectl delete pod -l '!boo'  
pod "demo1" deleted  
pod "demo2" deleted  
pod "demo3" deleted

It works because current pods don’t have the label boo. But it may delete other pods if any.