



Exercise 4.4: Using Labels

Create and work with labels. We will understand how the deployment, replicaSet, and pod labels interact.

1. Create a new deployment called design2

```
student@master:~$ kubectl create deployment design2 --image=nginx
```

```
1 deployment.apps/design2 created
```

2. View the wide **kubectl get** output for the design2 deployment and make note of the SELECTOR

```
student@master:~$ kubectl get deployments.apps design2 -o wide
```

```
1 NAME      READY  UP-TO-DATE  AVAILABLE  AGE    CONTAINERS  IMAGES  SELECTOR
2 design2  1/1    1           1          2m13s  nginx      nginx  app=design2
```

3. Use the **-l** option to use the selector to list the pods running inside the deployment. There should be only one pod running.

```
student@master:~$ kubectl get -l app=design2 pod
```

```
1 NAME                                READY  STATUS   RESTARTS  AGE
2 design2-766d48574f-5w274           1/1    Running  0         3m1s
```

4. View the pod details in YAML format using the deployment selector. This time use the **--selector** option. Find the pod label in the output. It should match that of the deployment.

```
student@master:~$ kubectl get --selector app=design2 pod -o yaml
```

```
1 apiVersion: v1
2 kind: Pod
3 metadata:
4   annotations:
5     cni.projectcalico.org/podIP: 192.168.113.222/32
6   creationTimestamp: "2020-01-31T16:29:37Z"
7   generateName: design2-766d48574f-
8   labels:
9     app: design2
10    pod-template-hash: 766d48574f
11  ....
```

5. Edit the pod label to be your favorite color.

```
student@master:~$ kubectl edit pod design2-766d48574f-5w274
```

YAML

```
1 ....
2   labels:
3     app: orange                                #<<-- Edit this line
4     pod-template-hash: 766d48574f
5     name: design2-766d48574f-5w274
6   ....
```

6. Now view how many pods are in the deployment. Then how many have design2 in their name. Note the AGE of the pods.

```
student@master:~$ kubectl get deployments.apps design2 -o wide
```

	NAME	READY	UP-TO-DATE	AVAILABLE	AGE	CONTAINERS	IMAGES	SELECTOR
1	design2	1/1	1	1	56s	nginx	nginx	app=design2

```
student@master:~$ kubectl get pods | grep design2
```

1	design2-766d48574f-5w274	1/1	Running	0	82s
2	design2-766d48574f-xttgg	1/1	Running	0	2m12s

7. Delete the design2 deployment.

```
student@master:~$ kubectl delete deploy design2
```

1	deployment.apps "design2" deleted
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8. Check again for pods with design2 in their names. You should find one pod, with an AGE of when you first created the deployment. Once the label was edited the deployment created a new pod in order that the status matches the spec and there be a replica running with the intended label.

```
student@master:~$ kubectl get pods | grep design2
```

1	design2-766d48574f-5w274	1/1	Running	0	38m
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9. Delete the pod using the -l and the label you edited to be your favorite color in a previous step. The command details have been omitted. Use previous steps to figure out these commands.