



Exercise 2.4: Multi-Container Pods

Using a single container per pod allows for the most granularity and decoupling. There are still some reasons to deploy multiple containers, sometimes called *composite containers*, in a single pod. The secondary containers can handle logging or enhance the primary, the *sidecar* concept, or acting as a proxy to the outside, the *ambassador* concept, or modifying data to meet an external format such as an *adapter*. All three concepts are secondary containers to perform a function the primary container does not.

1. We will add a second container to the pod to handle logging. Without going into details of how to use **fluentd** we will add a logging container to the existing pod from its own repository. The second container would act as a *sidecar*. At this state we will just add the second container and verify it is running. In the **Deployment Configuration** chapter we will continue to work on this pod by adding persistent storage and configure **fluentd** via a `configMap`.

Edit the YAML file and add a **fluentd** container. The dash should line up with the previous container dash. At this point a name and image should be enough to start the second container.

```
student@ckad-1:~$ vim basic.yaml
```

YAML

basic.yaml

```
1 ....
2   containers:
3     - name: webcont
4       image: nginx
5       ports:
6     - containerPort: 80
7     - name: fdlogger
8       image: fluent/fluentd
```

2. Delete and create the pod again. The commands can be typed on a single line, separated by a semicolon. This time you should see 2/2 under the READY column. You should also find information on the **fluentd** container inside of the `kubectl describe` output.

```
student@ckad-1:~$ kubectl delete pod basicpod ; kubectl create -f basic.yaml
```

```
1 pod "basicpod" deleted
2 pod/basicpod created
```

```
student@ckad-1:~$ kubectl get pod
```

```
1 NAME          READY   STATUS    RESTARTS   AGE
2 basicpod      2/2     Running   0           2m8s
```

```
student@ckad-1:~$ kubectl describe pod basicpod
```

```
1 Name:          basicpod
2 Namespace:     default
3 Priority:       0
4 Node:          ckad-1/10.128.0.11
5
6 ....
```

```
7
8 fdlogger:
9   Container ID:  docker://f0649457217f00175ce9aec35022d0b238b9b...
10  Image:         fluent/fluentd
11
12  ....
```

3. For now shut down the pod. We will use it again in a future exercise.

```
student@ckad-1:~$ kubectl delete pod basicpod
```

```
1 pod "basicpod" deleted
```