

## 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@cp:~$ 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: 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@cp:~$ kubectl delete pod basicpod ; kubectl create -f basic.yaml
```

```
pod "basicpod" deleted
pod/basicpod created
```

```
student@cp:~$ kubectl get pod
```

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

```
student@cp:~$ kubectl describe pod basicpod
```

```
Name:          basicpod
Namespace:     default
Priority:       0
Node:          worker/10.2.0.79
....
```

```
fdlogger:
  Container ID:   containerd://801cf175631ac79a9ebb1e71e802d6b912ae7730303c6c9d427b9fbd56ec5db2
  Image:         fluentd
  ...
```

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

```
student@cp:~$ kubectl delete pod basicpod
```

```
pod "basicpod" deleted
```