CS571
Mansi Shah
(19526)
Week 12

Passing metadata through files in a downwardAPI volume

Pod with a downwardAPI volume: downward-api-volume.yaml

```
mansishah@macbookpro downward % vim downward-api-volume.yaml
mansishah@macbookpro downward % cat downward-api-volume.yaml
apiVersion: v1
kind: Pod
metadata:
  name: downward
  labels:
    foo: bar
  annotations:
    key1: value1
    key2: |
      multi
      line
      value
spec:
  containers:
  - name: main
    image: mansi2210/shahm888: busybox
    command: ["sleep", "9999999"]
    volumeMounts:
    - name: downward
      mountPath: /etc/downward
  volumes:
  - name: downward
    downwardAPI:
      items:
      - path: "podName"
        fieldRef:
          fieldPath: metadata.name
      - path: "podNamespace"
        fieldRef:
          fieldPath: metadata.namespace
      - path: "labels"
        fieldRef:
          fieldPath: metadata.labels
      - path: "annotations"
        fieldRef:
          fieldPath: metadata.annotations
      - path: "containerCpuRequestMilliCores"
        resourceFieldRef:
          containerName: main
          resource: requests.cpu
          divisor: 1m
      - path: "containerMemoryLimitBytes"
        resourceFieldRef:
          containerName: main
```

```
mansishah@macbookpro downward % kubectl create -f downward-api-volume.yaml
pod/downward created
mansishah@macbookpro downward % kubectl get po
NAME        READY     STATUS      RESTARTS     AGE
downward    1/1       Running     0            10s
```

Files in the downwardAPI volume

```
mansishah@macbookpro downward % kubectl exec -it downward /bin/sh
/ # ls -l /etc/downward
total 0
lrwxrwxrwx    1 root     root            18 Apr  5 07:06 annotations -> ..data/annotations
lrwxrwxrwx    1 root     root            36 Apr  5 07:06 containerCpuRequestMilliCores -> ..data/containerCpuRequestMilliCores
lrwxrwxrwx    1 root     root            32 Apr  5 07:06 containerMemoryLimitBytes -> ..data/containerMemoryLimitBytes
lrwxrwxrwx    1 root     root            13 Apr  5 07:06 labels -> ..data/labels
lrwxrwxrwx    1 root     root            14 Apr  5 07:06 podName -> ..data/podName
lrwxrwxrwx    1 root     root            19 Apr  5 07:06 podNamespace -> ..data/podNamespace
/ #
```

Displaying labels and annotations in the downwardAPI volume

```
mansishah@macbookpro downward % kubectl exec downward cat /etc/downward/labels
foo="bar"%
mansishah@macbookpro downward % kubectl exec downward cat /etc/downward/annotations
key1="value1"
key2="multi\nline\nvalue\n"
kubernetes.io/config.seen="2020-04-05T07:06:29.255444353Z"
kubernetes.io/config.source="api"%
mansishah@macbookpro downward %
```