

CS571  
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Week12

## Exposing metadata through environment variables

Downward API used in environment variables: downward-api-env.yaml

```
mansishah@macbookpro downward % cat downward-api-env.yaml
apiVersion: v1
kind: Pod
metadata:
  name: downward
spec:
  containers:
  - name: main
    image: mansi2210/shahm888:busybox
    command: ["sleep", "9999999"]
    env:
    - name: POD_NAME
      valueFrom:
        fieldRef:
          fieldPath: metadata.name
    - name: POD_NAMESPACE
      valueFrom:
        fieldRef:
          fieldPath: metadata.namespace
    - name: POD_IP
      valueFrom:
        fieldRef:
          fieldPath: status.podIP
    - name: NODE_NAME
      valueFrom:
        fieldRef:
          fieldPath: spec.nodeName
    - name: SERVICE_ACCOUNT
      valueFrom:
        fieldRef:
          fieldPath: spec.serviceAccountName
    - name: CONTAINER_CPU_REQUEST_MILLICORES
      valueFrom:
        resourceFieldRef:
          resource: requests.cpu
          divisor: 1m
    - name: CONTAINER_MEMORY_LIMIT_KIBIBYTES
      valueFrom:
        resourceFieldRef:
          resource: limits.memory
          divisor: 1Ki
```

If your "downward" pod is not coming up and getting stuck at "ContainerCreating", then this is due to the "CPU & Memory" limit set under resources in "downward-api-env.yaml" file. The limits are really low for today's VM on which your Kubernetes cluster is running. So that is the reason the creation of pod is failing.

**Solution:**

Remove the resources in downward-api-env.yaml file.

## Environment variables in the downward pod

```
mansishah@macbookpro downward % kubectl create -f downward-api-env.yaml
pod/downward created
mansishah@macbookpro downward % kubectl exec downward env
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin
HOSTNAME=downward
POD_IP=172.17.0.4
NODE_NAME=m01
SERVICE_ACCOUNT=default
CONTAINER_CPU_REQUEST_MILLICORES=0
CONTAINER_MEMORY_LIMIT_KIBIBYTES=3834552
POD_NAME=downward
POD_NAMESPACE=default
KUBERNETES_SERVICE_PORT_HTTPS=443
KUBERNETES_PORT=tcp://10.96.0.1:443
KUBERNETES_PORT_443_TCP=tcp://10.96.0.1:443
KUBERNETES_PORT_443_TCP_PROTO=tcp
KUBERNETES_PORT_443_TCP_PORT=443
KUBERNETES_PORT_443_TCP_ADDR=10.96.0.1
KUBERNETES_SERVICE_HOST=10.96.0.1
KUBERNETES_SERVICE_PORT=443
HOME=/root

mansishah@macbookpro downward % kubectl get po
NAME          READY   STATUS    RESTARTS   AGE
downward      1/1     Running   0           18m
```