pod-1.yml

pod-1.yml > {} spec > [ ] containers

io.k8s.api.core.v1.Pod (v1@pod.json)

```yaml
apiVersion: v1
kind: Pod
metadata:
  name: "red"
  namespace: default
  labels:
    app: "myapp"
spec:
  containers:
  - name: redis-container
    image: "redis:latest"
    resources:
  initContainers:
    - name: init-busybox
      image: busybox
      command: ["sleep","20"]
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

sudo

```
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl apply -f pod-1.yml
pod/red created
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po -o wide
NAME   READY   STATUS     RESTARTS   AGE   IP       NODE       NOMINATED NODE   READINESS GATES
red    0/1     Init:0/1   0          2s    <none>   minikube   <none>           <none>
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po -o wide
NAME   READY   STATUS     RESTARTS   AGE   IP           NODE       NOMINATED NODE   READINESS GATES
red    0/1     Init:0/1   0          8s    172.17.0.5   minikube   <none>           <none>
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po -o wide
NAME   READY   STATUS     RESTARTS   AGE   IP           NODE       NOMINATED NODE   READINESS GATES
red    0/1     Init:0/1   0          15s   172.17.0.5   minikube   <none>           <none>
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po -o wide
NAME   READY   STATUS    RESTARTS   AGE   IP           NODE       NOMINATED NODE   READINESS GATES
red    1/1     Running   0          36s   172.17.0.5   minikube   <none>           <none>
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab#
```

Ln 9, Col 14 Spaces: 2 UTF-8 LF YAML Go Live kubernetes://schema/v1@pod Prettier+ Prettier

io.k8s.api.core.v1.Pod (v1@pod.json)

```yaml
apiVersion: v1
kind: Pod
metadata:
  name: "print-envars-greeting"
  namespace: default
  labels:
    app: "myapp"
spec:
  containers:
  - name: print-env-container
    image: bash
    resources:
    env:
      - name: GREETING
        value: "Welcome to"
      - name: COMPANY
        value: "DevOps"
      - name: GROUP
        value: "Industries"
    command: ["echo",'["$(GREETING) $(COMPANY) $(GROUP)"]']
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

sudo

```
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl apply -f pod-2.yml
pod/print-envars-greeting created
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po -o wide
NAME                     READY   STATUS              RESTARTS   AGE   IP       NODE       NOMINATED NODE   READINESS GATES
print-envars-greeting   0/1     ContainerCreating   0          3s    <none>   minikube   <none>           <none>
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po -o wide
NAME                     READY   STATUS      RESTARTS   AGE   IP           NODE       NOMINATED NODE   READINESS GATES
print-envars-greeting   0/1     Completed   0          5s    172.17.0.5   minikube   <none>           <none>
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubctl logs -f print-envars-greeting
Command 'kubctl' not found, did you mean:
  command 'kubectl' from snap kubectl (1.26.1)
See 'snap info <snapname>' for additional versions.
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl logs -f print-envars-greeting
["Welcome to DevOps Industries"]
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab#
```

io.k8s.api.core.v1.PersistentVolume (v1@persistentvolume.json)

```yaml
apiVersion: v1
kind: PersistentVolume
metadata:
  name: pv-log
  labels:
    app: my-pv
spec:
  capacity:
    storage: 100Mi
  accessModes:
    - ReadWriteMany
  hostPath:
    path: /pv/log
  claimRef:
    name: claim-log-1
    namespace: default
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

sudo

```
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl apply -f pv.yml
persistentvolume/pv-log created
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get pv
NAME     CAPACITY   ACCESS MODES   RECLAIM POLICY   STATUS      CLAIM                 STORAGECLASS   REASON   AGE
pv-log   100Mi      RWX            Retain           Available   default/claim-log-1                           3s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab#
```

io.k8s.api.core.v1.PersistentVolumeClaim (v1@persistentvolumeclaim.json)

```yaml
apiVersion: v1
kind: PersistentVolumeClaim
metadata:
  name: claim-log-1
  namespace: default
spec:
  selector:
    matchLabels:
      app: my-pv
  volumeName: pv-log
  accessModes:
  - ReadWriteMany
  resources:
    requests:
      storage: 50Mi
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl apply -f pvc.yml
persistentvolumeclaim/claim-log-1 created
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get pvc
NAME          STATUS   VOLUME   CAPACITY   ACCESS MODES   STORAGECLASS   AGE
claim-log-1   Bound    pv-log   100Mi      RWX            standard       12s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get pv
NAME     CAPACITY   ACCESS MODES   RECLAIM POLICY   STATUS   CLAIM                 STORAGECLASS   REASON   AGE
pv-log   100Mi      RWX            Retain           Bound    default/claim-log-1                           32s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab#
```

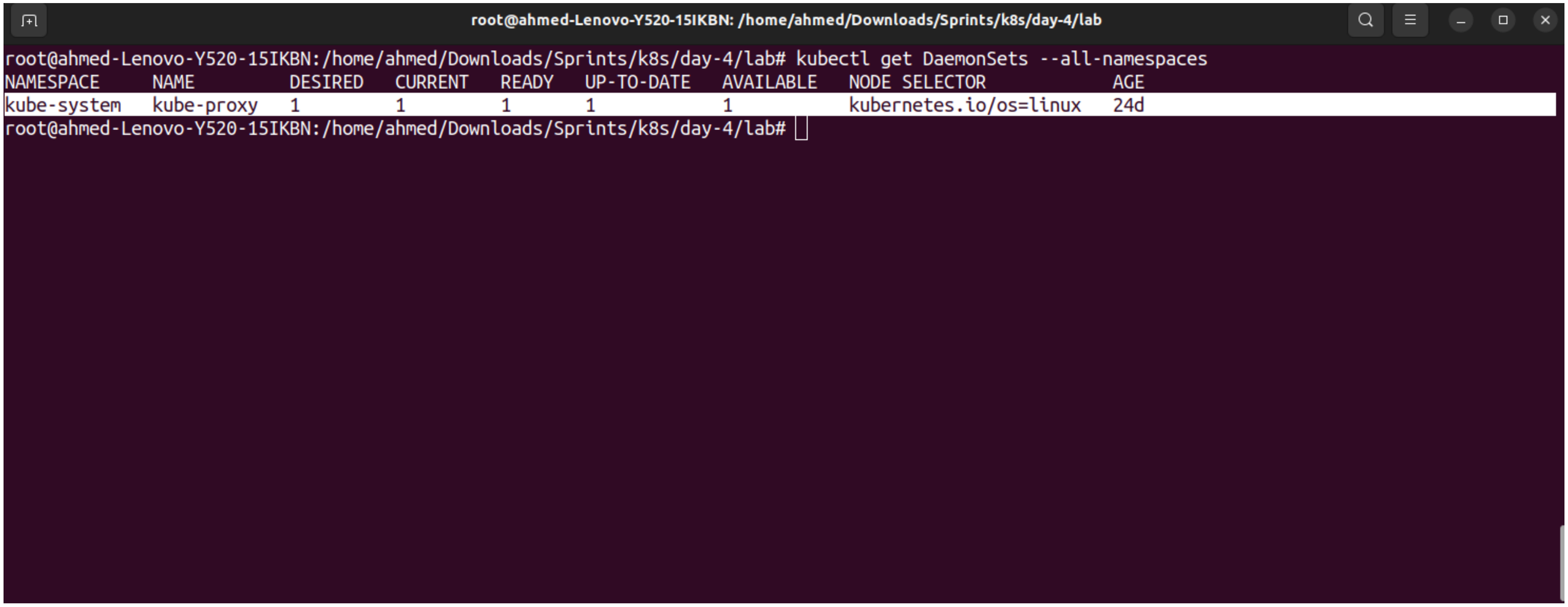
io.k8s.api.core.v1.Pod (v1@pod.json)

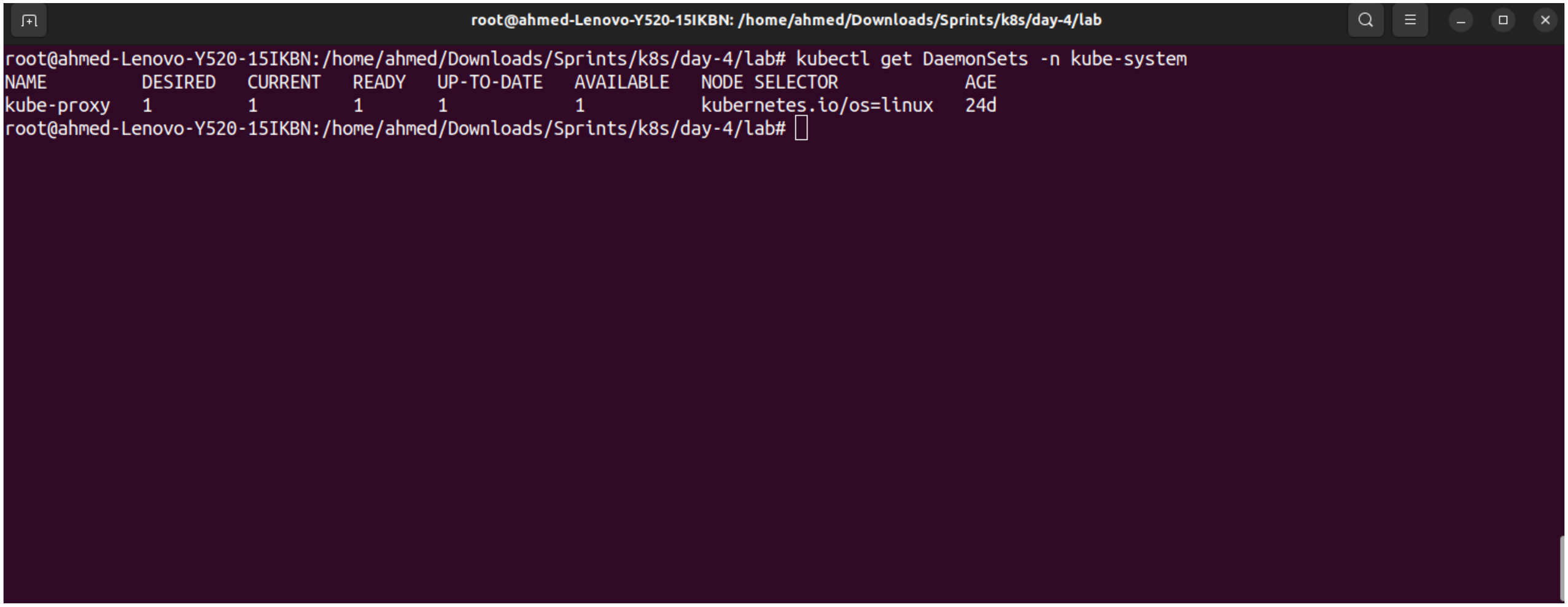
```yaml
apiVersion: v1
kind: Pod
metadata:
  name: "webapp"
  namespace: default
  labels:
    app: "myapp"
spec:
  containers:
  - name: nginx-container
    image: "nginx:latest"
    resources:
    volumeMounts:
    - name: localtime
      mountPath: /var/log/nginx
  volumes:
    - name: localtime
      persistentVolumeClaim:
        claimName: claim-log-1
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

sudo

```
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl apply -f pod-web.yml
pod/webapp created
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS              RESTARTS   AGE
webapp   0/1     ContainerCreating   0          4s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS    RESTARTS   AGE
webapp   1/1     Running   0          9s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab#
```


root@ahmed-Lenovo-Y520-15IKBN: /home/ahmed/Downloads/Sprints/k8s/day-4/lab
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get DaemonSets --all-namespaces
NAMESPACE NAME DESIRED CURRENT READY UP-TO-DATE AVAILABLE NODE SELECTOR AGE
kube-system kube-proxy 1 1 1 1 1 kubernetes.io/os=linux 24d
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab#


root@ahmed-Lenovo-Y520-15IKBN: /home/ahmed/Downloads/Sprints/k8s/day-4/lab
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get DaemonSets -n kube-system
NAME DESIRED CURRENT READY UP-TO-DATE AVAILABLE NODE SELECTOR AGE
kube-proxy 1 1 1 1 1 kubernetes.io/os=linux 24d
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab#

```
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl describe po kube-proxy -n kube-system
Name:                 kube-proxy-dk4qr
Namespace:            kube-system
Priority:             2000001000
Priority Class Name:  system-node-critical
Service Account:      kube-proxy
Node:                 minikube/192.168.49.2
Start Time:           Sat, 31 Dec 2022 13:20:36 +0200
Labels:               controller-revision-hash=b9c5d5dc4
                      k8s-app=kube-proxy
                      pod-template-generation=1
Annotations:          <none>
Status:               Running
IP:                   192.168.49.2
IPs:
  IP:           192.168.49.2
Controlled By:  DaemonSet/kube-proxy
Containers:
  kube-proxy:
    Container ID:  docker://952c361056b9ee1853c9b9902641699ece18499e4120a1c40decd385ee032349
    Image:         registry.k8s.io/kube-proxy:v1.25.3
    Image ID:      docker-pullable://registry.k8s.io/kube-proxy@sha256:6bf25f038543e1f433cb7f2bdda445ed348c7b9279935ebc2ae4f432308ed82f
    Port:          <none>
    Host Port:     <none>
    Command:
      /usr/local/bin/kube-proxy
      --config=/var/lib/kube-proxy/config.conf
      --hostname-override=$(NODE_NAME)
    State:          Running
      Started:      Tue, 24 Jan 2023 16:07:16 +0200
    Last State:     Terminated
      Reason:       Error
      Exit Code:    255
      Started:      Tue, 24 Jan 2023 01:13:15 +0200
      Finished:     Tue, 24 Jan 2023 16:06:58 +0200
    Ready:          True
    Restart Count:  18
    Environment:
      NODE_NAME:   (v1:spec.nodeName)
    Mounts:
      /lib/modules from lib-modules (ro)
      /run/xtables.lock from xtables-lock (rw)
      /var/lib/kube-proxy from kube-proxy (rw)
```

io.k8s.api.apps.v1.DaemonSet (v1@daemonset.json)

```yaml
apiVersion: apps/v1
kind: DaemonSet
metadata:
  name: elasticsearch
  namespace: kube-system
  labels:
    app: myapp
spec:
  selector:
    matchLabels:
      app: myapp
  template:
    metadata:
      labels:
        app: myapp
    spec:
      containers:
      - name: myapp-container
        image: k8s.gcr.io/fluentd-elasticsearch:1.20
        resources:
```



```
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl apply -f DaemonSet.yml
daemonset.apps/elasticsearch created
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get DaemonSet -n kube-system
NAME            DESIRED   CURRENT   READY   UP-TO-DATE   AVAILABLE   NODE SELECTOR            AGE
elasticsearch   1         1         1       1            1           <none>                   30s
kube-proxy      1         1         1       1            1           kubernetes.io/os=linux   24d
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab#
```

io.k8s.api.core.v1.Pod (v1@pod.json)

```yaml
apiVersion: v1
kind: Pod
metadata:
  name: "yellow"
  namespace: default
  labels:
    app: "myapp"
spec:
  containers:
  - name: lemon
    image: busybox
    resources:
  - name: gold
    image: redis
    resources:
```



```
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl apply -f multiContainer.yml
pod/yellow created
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS              RESTARTS   AGE
yellow   0/2     ContainerCreating   0          2s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS             RESTARTS     AGE
yellow   1/2     CrashLoopBackOff   1 (2s ago)   14s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS             RESTARTS      AGE
yellow   1/2     CrashLoopBackOff   1 (16s ago)   28s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab#
```

io.k8s.api.core.v1.Pod (v1@pod.json)

```yaml
apiVersion: v1
kind: Pod
metadata:
  name: db-pod
  namespace: default
  labels:
    app: "myapp"
spec:
  containers:
  - name: mysql-cont
    image: mysql:5.7
    resources:
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

sudo

```
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl apply -f mysql.yml
pod/db-pod created
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS              RESTARTS   AGE
db-pod   0/1     ContainerCreating   0          2s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS              RESTARTS   AGE
db-pod   0/1     ContainerCreating   0          6s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS              RESTARTS   AGE
db-pod   0/1     ContainerCreating   0          15s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS              RESTARTS   AGE
db-pod   0/1     ContainerCreating   0          36s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS              RESTARTS   AGE
db-pod   0/1     ContainerCreating   0          39s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS             RESTARTS   AGE
db-pod   0/1     ImagePullBackOff   0          2m45s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab#
```

io.k8s.api.core.v1.Pod (v1@pod.json)

```yaml
apiVersion: v1
kind: Pod
metadata:
  name: db-pod
  namespace: default
  labels:
    app: "myapp"
spec:
  containers:
  - name: mysql-cont
    image: mysql:5.7
    resources:
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

sudo

```
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl apply -f mysql.yml
pod/db-pod created
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS              RESTARTS   AGE
db-pod   0/1     ContainerCreating   0          2s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS              RESTARTS   AGE
db-pod   0/1     ContainerCreating   0          6s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS              RESTARTS   AGE
db-pod   0/1     ContainerCreating   0          15s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS              RESTARTS   AGE
db-pod   0/1     ContainerCreating   0          36s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS              RESTARTS   AGE
db-pod   0/1     ContainerCreating   0          39s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS             RESTARTS   AGE
db-pod   0/1     ImagePullBackOff   0          2m45s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# pod not ready because image "mysql" need vars to can login and create it
```

io.k8s.api.core.v1.Secret (v1@secret.json)

```yaml
apiVersion: v1
kind: Secret
metadata:
  name: db-secret
  namespace: default
data:
  MYSQL_DATABASE: c3FsMDE=
  MYSQL_USER: dXNlcjE=
  MYSQL_PASSWORD: cGFzc3dvcmQ=
  MYSQL_ROOT_PASSWORD: cGFzc3dvcmQxMjM=

```



```
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# echo -n "sql01" | base64
c3FsMDE=
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# echo -n "user1" | base64
dXNlcjE=
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# echo -n "password" | base64
cGFzc3dvcmQ=
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# echo -n "password123" | base64
cGFzc3dvcmQxMjM=
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl apply -f db-secret.yml
secret/db-secret created
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get Secret
NAME        TYPE     DATA   AGE
db-secret   Opaque   4      19s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab#
```

```yaml
apiVersion: v1
kind: Pod
metadata:
  name: db-pod
  namespace: default
  labels:
    app: "myapp"
spec:
  containers:
  - name: mysql-cont
    image: mysql:5.7
    resources:
    envFrom:
      - secretRef:
          name: db-secret
```



```
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl apply -f mysql.yml
pod/db-pod created
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab# kubectl get po
NAME     READY   STATUS    RESTARTS   AGE
db-pod   1/1     Running   0          2s
root@ahmed-Lenovo-Y520-15IKBN:/home/ahmed/Downloads/Sprints/k8s/day-4/lab#
```