

Organize Kubernetes Pods using Labels and Namespaces

- ◆ Step 1: Create Namespace YAML

```
nano namespaces.yaml
```

```
apiVersion: v1
kind: Namespace
metadata:
  name: dev
---
apiVersion: v1
kind: Namespace
metadata:
  name: prod
```

- ◆ Step 2: Create Pods YAML

```
nano pods.yaml
```

```
apiVersion: v1
kind: Pod
metadata:
  name: frontend-pod
  namespace: dev
  labels:
    app: frontend
spec:
  containers:
    - name: frontend
      image: nginx
---
apiVersion: v1
kind: Pod
metadata:
  name: backend-pod
  namespace: dev
  labels:
    app: backend
spec:
  containers:
    - name: backend
```

```
image: nginx
---
apiVersion: v1
kind: Pod
metadata:
  name: frontend-pod
  namespace: prod
  labels:
    app: frontend
spec:
  containers:
    - name: frontend
      image: nginx
---
apiVersion: v1
kind: Pod
metadata:
  name: backend-pod
  namespace: prod
  labels:
    app: backend
spec:
  containers:
    - name: backend
      image: nginx
```

◆ Step 3: Apply YAML files

```
kubectl apply -f namespaces.yaml
kubectl apply -f pods.yaml
```

◆ Step 4: Verify Pods by Namespace

```
kubectl get pods -n dev
kubectl get pods -n prod
```

◆ Step 5: Filter Pods using Labels

```
kubectl get pods -n dev -l app=frontend
kubectl get pods -n prod -l app=backend
```

◆ Step 6: Cleanup

```
kubectl delete pods --all -n dev
kubectl delete pods --all -n prod
kubectl delete namespace dev
kubectl delete namespace prod
```

The screenshot shows a terminal window with four tabs, all titled 'abhishek@Abhishek-Ubuntu: ~'. The terminal content is as follows:

```
abhishek@Abhishek-Ubuntu:~$ nano namespaces.yaml
abhishek@Abhishek-Ubuntu:~$ nano pods.yaml
abhishek@Abhishek-Ubuntu:~$ kubectl apply -f namespaces.yaml
namespace/dev created
namespace/prod created
abhishek@Abhishek-Ubuntu:~$ kubectl apply -f pods.yaml
pod/frontend-pod created
pod/backend-pod created
pod/frontend-pod created
pod/backend-pod created
abhishek@Abhishek-Ubuntu:~$ kubectl get pods -n dev
NAME      READY  STATUS   RESTARTS  AGE
backend-pod 1/1   Running  0          13s
frontend-pod 1/1   Running  0          13s
abhishek@Abhishek-Ubuntu:~$ kubectl get pods -n prod
NAME      READY  STATUS   RESTARTS  AGE
backend-pod 1/1   Running  0          21s
frontend-pod 1/1   Running  0          22s
abhishek@Abhishek-Ubuntu:~$ kubectl get pods -n dev -l app=frontend
NAME      READY  STATUS   RESTARTS  AGE
frontend-pod 1/1   Running  0          36s
abhishek@Abhishek-Ubuntu:~$ kubectl get pods -n prod -l app=backend
NAME      READY  STATUS   RESTARTS  AGE
backend-pod 1/1   Running  0          48s
abhishek@Abhishek-Ubuntu:~$ █
```