

```
controlplane $ echo -n lubnaz | base64
bHVibmF6
controlplane $ echo -n lubnapass | base64
bHVibmFwYXNz
controlplane $ ^C
```

```
apiVersion: v1
kind: ConfigMap
metadata:
  name: mongo-configmap
data:
  mango-url: mongo-service
```

```
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~
```

```
controlplane $ kubectl apply -f configmap.yaml
configmap/mongo-configmap created
controlplane $ vim mangoSec.yaml
controlplane $ cat mangoSec.yaml
apiVersion: v1
kind: Secret
metadata:
  name: mango-secret
type: Opaque
data:
  mango-user: bHVibmF6
  mango-pass: bHVibmFwYXNz
controlplane $ kubectl apply -f mangoSec.yaml
secret/mango-secret created
controlplane $ █
```

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: mango-deployment
  labels:
    app: mango
spec:
  replicas: 1
  selector:
    matchLabels:
      app: mango
  template:
    metadata:
      labels:
        app: mango
    spec:
      containers:
        - name: mango
          image: mango:5.0
          ports:
            - containerPort: 27017
          env:
            - name: MONGO_INITDB_ROOT_USERNAME
              valueFrom:
                secretKeyRef:
                  name: mango-secret
                  key: mango-user
            - name: MONGO_INITDB_ROOT_PASSWORD
              valueFrom:
                secretKeyRef:
                  name: mango-secret
```

```
:wq!
controlplane $ cat mangoService.yaml
apiVersion: v1
kind: Service
metadata:
  name: mongo-service
spec:
  type: ClusterIp
  selector:
    matchLabels:
      app: mongo
  ports:
    - portocool: TCP
      port: 27017
      targetPort: 27017
controlplane $
```

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: webapp-deployment
  labels:
    app: webapp
spec:
  replicas: 1
  selector:
    matchLabels:
      app: webapp
  template:
    metadata:
      labels:
        app: webapp
    spec:
      containers:
        - name: webapp
          image: nanajanashia/k8s-demo-app:v1.0
          ports:
            - containerPort: 3000
          env:
            - name: USER_NAME
              valueFrom:
                secretKeyRef:
                  name: mango-secret
                  key: mango-user
            - name: USER_PWD
              valueFrom:
                secretKeyRef:
                  name: mango-secret
```

:wq!

```

apiVersion: v1
kind: Service
metadata:
  name: webapp-service
spec:
  type: NodePort
  selector:
    matchLabels:
      app: webapp
  ports:
    - protocol: TCP
      port: 3000
      targetPort: 3000
      nodePort: 30000
~

```

```

apiVersion: v1
kind: Service
metadata:
  name: mongo-service
spec:
  type: ClusterIp
  selector:
    matchLabels:
      app: mongo
  ports:
    - protocol: TCP
      port: 27017
      targetPort: 27017
~
~
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~

```

```

controlplane $ kubectl get nodes
NAME          STATUS    ROLES    AGE   VERSION
controlplane  Ready    control-plane  12d   v1.26.0
controlplane $ kubectl describe nodes controlplane | grep Taint
Taints:                <none>
controlplane $

```

```

controlplane $ kubectl taint node controlplane color=blue:NoSchedule
node/controlplane tainted
controlplane $

```

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: blue
  labels:
    app: nginx
spec:
  selector:
    matchLabels:
      app: nginx
  replicas: 3
  template:
    metadata:
      labels:
        app: nginx
    spec:
      affinity:
        NodeAffinity:
          requiredDuringSchedulingIgnoredDuringExecution:
            nodeSelectorTerms:
              - matchExpressions:
                  - key: color
                    operator: In
                    values:
                      - blue
      containers:
        - name: nginx
          image: nginx
```

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: blue
  labels:
    app: nginx
spec:
  selector:
    matchLabels:
      app: nginx
  replicas: 3
  template:
    metadata:
      labels:
        app: nginx
    spec:
      affinity:
        NodeAffinity:
          requiredDuringSchedulingIgnoredDuringExecution:
            nodeSelectorTerms:
              - matchExpressions:
                  - key: color
                    operator: In
                    values:
                      - blue
```

```
controlplane $ k apply -f blue.yaml
deployment.apps/blue created
```

```
controlplane $ kubectl taint node node01 spray=mortein:NoSchedule
node/node01 tainted
```

```
controlplane $ k run mosquito --image=nginx
pod/mosquito created
```

```
apiVersion: v1
kind: Pod
metadata:
  name: bee
spec:
  containers:
  - name: nginx
    image: nginx
  tolerations:
  - key: "spray"
    operator: "Equal"
    value: "mortein"
    effect: "NoSchedule"
```

```
controlplane $ k get po mosquito
```

NAME	READY	STATUS	RESTARTS
mosquito	0/1	Pending	0

NAME	READY	STATUS	RESTARTS
bee	1/1	Running	0

```
controlplane $ vim blue.yaml
controlplane $ k apply -f blue.yaml
deployment.apps/nginx created
controlplane $ cat blue.yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx
spec:
  selector:
    matchLabels:
      app: nginx
  template:
    metadata:
      labels:
        app: nginx
    spec:
      affinity:
        nodeAffinity:
          requiredDuringSchedulingIgnoredDuringExecution:
            nodeSelectorTerms:
              - matchExpressions:
                  - key: color
                    operator: In
                    values:
                      - blue
      containers:
        - image: nginx
          name: nginx
controlplane $ █
```