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```
Terminal Host 1 +
Your Interactive Bash Terminal.

controlplane $ kubectl run redis --image redis
pod/redis created
controlplane $ kubectl get pods
NAME    READY   STATUS    RESTARTS   AGE
redis   1/1     Running   0           38s
controlplane $
```

```
Terminal Host 2
Your Interactive Bash Terminal.

node01 $
```

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```
Terminal Host 1 +
controlplane $ vi pod.definition.yml
controlplane $ kubectl create -f pod.definition.yml
pod/nginx created
controlplane $ kubectl get pods
NAME    READY   STATUS    RESTARTS   AGE
nginx   0/1     ErrImagePull  0           69s
controlplane $
```

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Terminal Host 2
Your Interactive Bash Terminal.

node01 $
```

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```
Terminal Host 1 +
controlplane $ vi pod.definition.yml
controlplane $ kubectl create -f pod.definition.yml
pod/nginx created
controlplane $ kubectl get pods
NAME      READY   STATUS    RESTARTS   AGE
nginx     0/1     ErrImagePull  0          69s
controlplane $ vi pod.definition.yml
controlplane $ kubectl apply -f pod.definition.yml
Warning: kubectl apply should be used on resource created by either kubectl create --save-config or kubectl apply
pod/nginx configured
controlplane $ kubectl get pods
NAME      READY   STATUS    RESTARTS   AGE
nginx     1/1     Running   0          3m48s
controlplane $
```

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Terminal Host 2
Your Interactive Bash Terminal.
node01 $
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```
Terminal Host 1 +
controlplane $ kubectl get rs
No resources found in default namespace.
controlplane $
```

```
Terminal Host 2
Your Interactive Bash Terminal.
node01 $
```

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```
Terminal Host 1 +
controlplane $ vi ra-def.yml
controlplane $ kubectl create -f ra-def.yml
replicaset.apps/replica-set-1 created
controlplane $

Terminal Host 2
Your Interactive Bash Terminal.

node01 $
node01 $
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```
Terminal Host 1 +
controlplane $ vi ra-def.yml
controlplane $ kubectl create -f ra-def.yml
replicaset.apps/replica-set-1 created
controlplane $ kubectl scale --replicas=5 -f ra-def.yml
Error: invalid argument "=" for "--replicas" flag: strconv.ParseInt: parsing "=": invalid syntax
See 'kubectl scale --help' for usage.
controlplane $ kubectl scale --replicas=5 -f ra-def.yml
Error: invalid argument "" for "--replicas" flag: strconv.ParseInt: parsing "": invalid syntax
See 'kubectl scale --help' for usage.
controlplane $ kubectl scale --replicas=5 -f ra-def.yml
replicaset.apps/replica-set-1 scaled
controlplane $ kubectl get rs
NAME                DESIRED   CURRENT   READY   AGE
replica-set-1        5         5         0       3m25s
controlplane $

Terminal Host 2
Your Interactive Bash Terminal.

node01 $
node01 $
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```
Terminal Host 1 +
controlplane $ kubectl get pods
NAME                                READY   STATUS              RESTARTS   AGE
replica-set-1-2np6q                 0/1     CrashLoopBackOff    6           6m10s
replica-set-1-fdrp                  0/1     Completed           6           6m10s
replica-set-1-j2l7d                 0/1     Completed           6           6m10s
replica-set-1-tgdrq                 0/1     Completed           5           3m8s
replica-set-1-xgckq                 0/1     CrashLoopBackOff    4           3m8s
controlplane $ kubectl delete pod replica-set-1-2np6q
pod "replica-set-1-2np6q" deleted
^[[acontrolplane $ kubectl get pods
NAME                                READY   STATUS              RESTARTS   AGE
replica-set-1-fdrp                  0/1     CrashLoopBackOff    6           7m47s
replica-set-1-j2l7d                 0/1     CrashLoopBackOff    6           7m47s
replica-set-1-tgdrq                 0/1     CrashLoopBackOff    5           4m45s
replica-set-1-wdtkr                 0/1     CrashLoopBackOff    1           16s
replica-set-1-xgckq                 0/1     CrashLoopBackOff    5           4m45s
controlplane $

Terminal Host 2
Your Interactive Bash Terminal.

node01 $
node01 $
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```
Terminal Host 1 +
controlplane $ kubectl get deployments
No resources found in default namespace.
controlplane $

Terminal Host 2
Your Interactive Bash Terminal.

node01 $
node01 $
```

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Terminal Host 1 +
Your Interactive Bash Terminal.
controlplane \$ kubectl create -f dep-dif.yml
deployment.apps/deployment-1 created
controlplane \$

Terminal Host 2
Your Interactive Bash Terminal.
node01 \$
node01 \$

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Terminal Host 1 +
controlplane \$ kubectl create -f dep-dif.yml
deployment.apps/deployment-1 created
controlplane \$ kubectl get all
NAME READY STATUS RESTARTS AGE
pod/deployment-1-5dbbff89f8-2xcgt 0/1 CrashLoopBackOff 3 98s
pod/deployment-1-5dbbff89f8-19xm5 0/1 Completed 4 98s
pod/deployment-1-5dbbff89f8-zrzjh 0/1 Completed 4 98s

NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
service/kubernetes ClusterIP 10.96.0.1 <none> 443/TCP 24m

NAME READY UP-TO-DATE AVAILABLE AGE
deployment.apps/deployment-1 0/3 3 0 98s

NAME DESIRED CURRENT READY AGE
replicaset.apps/deployment-1-5dbbff89f8 3 3 0 98s
controlplane \$

Terminal Host 2
Your Interactive Bash Terminal.
node01 \$
node01 \$

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```
Terminal Host 1 +
Your Interactive Bash Terminal.

controlplane $ vi dep-dif.yml
controlplane $ kubectl apply -f dep-dif.yml
Warning: kubectl apply should be used on resource created by either kubectl crea
te --save-config or kubectl apply
deployment.apps/deployment-1 configured
controlplane $ kubectl get pods
NAME                                READY   STATUS             RESTARTS   AGE
deployment-1-5dbbfff89f8-2xgqt      0/1     CrashLoopBackOff   5           4m55s
deployment-1-5dbbfff89f8-19zx3      0/1     CrashLoopBackOff   5           4m55s
deployment-1-5dbbfff89f8-rrzjh      0/1     CrashLoopBackOff   5           4m55s
deployment-1-67f7469cf7-3cc5k       0/2     ContainerCreating  0           45s
controlplane $
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Terminal Host 2
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node01 $
node01 $
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```
Terminal Host 1 +
Your Interactive Bash Terminal.

Selector:      tier=frontend
Replicas:      3 desired | 1 updated | 4 total | 0 available | 4 unavaila
lable
StrategyType:  RollingUpdate
MinReadySeconds: 0
RollingUpdateStrategy: 25% max unavailable, 25% max surge
Pod Template:
  Labels:  tier=frontend
  Containers:
    nginx:
      Image:      nginx
      Port:       <none>
      Host Port:  <none>
      Environment: <none>
      Mounts:      <none>
    busybox:
      Image:      busybox
      Port:       <none>
      Host Port:  <none>
      Environment: <none>
      Mounts:      <none>

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Your Interactive Bash Terminal.

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```
Terminal Host 1 +
Port: <none>
Host Port: <none>
controlplane $ kubectl rollout undo deployment/deployment-1
deployment.apps/deployment-1 rolled back
controlplane $ kubectl describe deployment deployment-1
Name: deployment-1
Namespace: default
CreationTimestamp: Thu, 23 Sep 2021 11:35:48 +0000
Labels: app=yapp
        tier=frontend
Annotations: deployment.kubernetes.io/revision: 3
Replicas: 3 desired | 3 updated | 4 total | 0 available | 4 unavail
         label
StrategyType: RollingUpdate
MinReadySeconds: 0
RollingUpdateStrategy: 25% max unavailable, 25% max surge
Pod Template:
  Labels: tier=frontend
  Containers:
    huahua:
      Image: huahua
Terminal Host 2
Your Interactive Bash Terminal.

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node01 $
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```
Terminal Host 1 +
Labels: tier=frontend
Containers:
  busybox:
    Image: busybox
    Port: <none>
    Host Port: <none>
    Environment: <none>
    Mounts: <none>
    Volumes: <none>
Conditions:
  Type           Status  Reason
  ----           -
  Available      False   MinimumReplicasUnavailable
  Progressing    True    ReplicaSetUpdated
OldReplicaSets: deployment-1-67f7469c7f (1/1 replicas created)
NewReplicaSet: deployment-1-5d8bfff89f8 (3/3 replicas created)
Events:
  Type Reason Age From Message
  ---
Normal ScalingReplicaSet 20m deployment-controller Scaled up replica set deployment-1-5d8bfff89f8 to 3
Terminal Host 2
Your Interactive Bash Terminal.

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node01 $
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```
Terminal Host 1 +
controlplane $ kubectl get namespaces
NAME          STATUS   AGE
default       Active   46m
kube-node-lease Active   46m
kube-public   Active   46m
kube-system   Active   46m
controlplane $

Terminal Host 2
Your Interactive Bash Terminal.

node01 $
node01 $
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```
Terminal Host 1 +
controlplane $ kubectl get pods --namespace=kube-system
NAME                                READY   STATUS    RESTARTS   AGE
coredns-66bff467f8-8rgh1            1/1     Running   0           48m
coredns-66bff467f8-xhg9n            1/1     Running   0           48m
etcd-controlplane                   1/1     Running   0           48m
katacoda-cloud-provider-f458b94c-qxjb7 1/1     Running   16          48m
kube-apiserver-controlplane          1/1     Running   0           48m
kube-controller-manager-controlplane 1/1     Running   0           48m
kube-flannel-de-amd64-b8bc9          1/1     Running   0           48m
kube-flannel-de-amd64-hdcdk          1/1     Running   0           48m
kube-keepalived-vip-gplql           1/1     Running   0           47m
kube-proxy-cvfd                     1/1     Running   0           48m
kube-proxy-tjcan                    1/1     Running   0           48m
kube-scheduler-controlplane          1/1     Running   0           48m
controlplane $

Terminal Host 2
Your Interactive Bash Terminal.

node01 $
node01 $
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```
Terminal Host 1 +
controlplane $ pwd
/root
controlplane $ kubectl get deployments --namespace=finance
NAME READY UP-TO-DATE AVAILABLE AGE
beta 3/3 3 3 7m2s
controlplane $

Terminal Host 2
Your Interactive Bash Terminal.
node01 $
```

```
Terminal Host 1 +
beta 3/3 3 3 7m2s
controlplane $ kubectl describe deployment beta --namespace=finance
Name: beta
Namespace: finance
CreationTimestamp: Fri, 24 Sep 2021 20:42:03 +0000
Labels: app=app
        tier=frontend
Annotations: deployment.kubernetes.io/revision: 1
Selector: tier=frontend
Replicas: 3 Desired | 3 updated | 3 total | 3 available | 0 unavail
lable
StrategyType: RollingUpdate
MinReadySeconds: 0
RollingUpdateStrategy: 25% max unavailable, 25% max surge
Pod Template:
  Labels: tier=frontend
  Containers:
    redis:
      Image: redis
      Port: <none>
      Host Port: <none>

Terminal Host 2
Your Interactive Bash Terminal.
node01 $
```

```
Terminal Host 1 +
Labels: tier=frontend
Containers:
  redis:
    Image: redis
    Port: <none>
    Host Port: <none>
    Limits:
      cpu: 1
      memory: 2G
    Requests:
      cpu: 500m
      memory: 1G
    Environment: <none>
    Mounts: <none>
    Volumes: <none>
Conditions:
  Type Status Reason
  ----
  Available True MinimumReplicasAvailable
  Progressing True NewReplicaSetAvailable
OldReplicaSets: <none>

Terminal Host 2
Your Interactive Bash Terminal.
node01 $
```

```
Terminal Host 1 +
Port: <none>
Host Port: <none>
Limits:
  cpu: 1
  memory: 2G
Requests:
  cpu: 500m
  memory: 1G
Environment: <none>
Mounts: <none>
Volumes: <none>
Conditions:
  Type      Status Reason
  ----      -
Available   True   MinimumReplicasAvailable
Progressing  True   NewReplicaSetAvailable
OldReplicaSets: <none>
NewReplicaSet: beta-78847b8967 (3/3 replicas created)
Events:
  Type      Reason      Age    From          Message
  ----      -
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```

```
Terminal Host 1 +
Version: apps/v1
Kind: Deployment
metadata:
  name: beta
  namespace: finance
  labels:
    app: app
    tier: frontend
spec:
  replicas: 3
  selector:
    matchLabels:
      tier: frontend
  template:
    metadata:
      labels:
        tier: frontend
    spec:
      containers:
        - name: app
          image: app
          ports:
            - containerPort: 80
Terminal Host 2
Your Interactive Bash Terminal.
node01 $
```

```
Terminal Host 1 +
labels:
  tier: frontend
spec:
  containers:
    - name: redis
      image: redis
      resources:
        requests:
          memory: "1G"
          cpu: .5
        limits:
          memory: "2G"
          cpu: 1
Terminal Host 2
Your Interactive Bash Terminal.
node01 $
```