```
controlplane ~ → kubectl run redis --image redis
pod/redis created

controlplane ~ → kubectl get pods
NAME    READY   STATUS    RESTARTS   AGE
redis   1/1     Running   0          15s

controlplane ~ →
```

```
controlplane ~ ➜ vi pod.yaml

controlplane ~ ➜ kubectl create -f pod.yaml
pod/my-app created

controlplane ~ ➜
```

```yaml
apiVersion: v1
kind: Pod
metadata:
  name: my-app
  labels:
    app: my-app
spec:
  containers:
    - name: nginx
      image: nginx123
```

```
controlplane ~ ➜ kubectl get pods
NAME      READY   STATUS        RESTARTS   AGE
my-app    0/1     ErrImagePull  0          35s
redis     1/1     Running       0          10m

controlplane ~ ➜ []
```

```
controlplane ~ ➜ kubectl get pods
NAME      READY   STATUS    RESTARTS   AGE
my-app    1/1     Running   0          7s
redis     1/1     Running   0          12m

controlplane ~ ➜
```

```
redis       1/1       Running    0              12m

controlplane ~ ➜ kubectl get rs
No resources found in default namespace.

controlplane ~ ➜ []
```

```
replicaset.apps/replica-set-1 created

controlplane ~ ➜ kubectl get rs
NAME            DESIRED   CURRENT   READY   AGE
replica-set-1   3         3         0       28s

controlplane ~ ➜ ▮
```

```yaml
apiVersion: apps/v1
kind: ReplicaSet
metadata:
  name: replica-set-1
  labels:
    type: front-end
spec:
  template:
    metadata:
      name: myapp
      labels:
        app: myapp
        type: front-end
    spec:
      containers:
        - name: app
          image: busybox
  replicas: 3
  selector:
    matchLabels:
      type: front-end
```

```
controlplane ~ ➜ kubectl get rs
NAME              DESIRED      CURRENT      READY      AGE
replica-set-1     3            3            0          28s

controlplane ~ ➜ vi rs.yaml

controlplane ~ ➜ kubectl scale rs replica-set-1  --replicas=5
replicaset.apps/replica-set-1 scaled

controlplane ~ ➜ kubectl get rs
NAME              DESIRED      CURRENT      READY      AGE
replica-set-1     5            5            0          3m21s

controlplane ~ ➜ []
```

```
controlplane ~ ➜ kubectl get pods
NAME                      READY   STATUS             RESTARTS        AGE
my-app                    1/1     Running            0               22m
redis                     1/1     Running            0               35m
replica-set-1-6jptt       0/1     CrashLoopBackOff   5 (67s ago)     3m56s
replica-set-1-kj2cm       0/1     Completed          3 (32s ago)     45s
replica-set-1-l7rlg       0/1     CrashLoopBackOff   2 (26s ago)     45s
replica-set-1-w4f6b       0/1     CrashLoopBackOff   5 (65s ago)     3m56s
replica-set-1-xq72z       0/1     CrashLoopBackOff   5 (63s ago)     3m56s

controlplane ~ ➜ []
```

```
controlplane ~ ✖ kubectl delete pods replica-set-1-6jptt replica-set-1-kj2cm replica-set-1-l7rlg replica-set-1-w4f6b replica-set-1-xq72z
pod "replica-set-1-6jptt" deleted
pod "replica-set-1-kj2cm" deleted
pod "replica-set-1-l7rlg" deleted
pod "replica-set-1-w4f6b" deleted
pod "replica-set-1-xq72z" deleted

controlplane ~ ➜ kubectl get pods
NAME                   READY   STATUS           RESTARTS      AGE
my-app                 1/1     Running          0             25m
redis                  1/1     Running          0             38m
replica-set-1-2mvmc    0/1     Completed        1 (6s ago)    8s
replica-set-1-96mq5    0/1     Completed        1 (6s ago)    8s
replica-set-1-ghh84    0/1     CrashLoopBackOff 1 (4s ago)    8s
replica-set-1-hgrcb    0/1     Completed        1 (6s ago)    8s
replica-set-1-wxcgd    0/1     Completed        1 (6s ago)    8s

controlplane ~ ➜ ▯
```

```
controlplane ~ ➜ kubectl create -f  de.yaml
deployment.apps/deployment-1 created

controlplane ~ ➜ kubectl get deployments.
NAME            READY     UP-TO-DATE      AVAILABLE       AGE
deployment-1    0/3       3               0               33s

controlplane ~ ➜ []
```

```yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: deployment-1
  labels:
    type: front-end
spec:
  template:
    metadata:
      name: myapp
      labels:
        app: myapp
        type: front-end
    spec:
      containers:
        - name: app
          image: busybox
  replicas: 3
  selector:
    matchLabels:
      type: front-end
~
~
```

```
controlplane ~ ➜ kubectl create -f  de.yaml
deployment.apps/deployment-1 created

controlplane ~ ➜ kubectl get deployments.
NAME           READY     UP-TO-DATE     AVAILABLE     AGE
deployment-1   0/3       3              0             33s

controlplane ~ ➜ []
```

```
deployment.apps/deployment-1 created

controlplane ~ ➜ kubectl get deployments.
NAME           READY   UP-TO-DATE   AVAILABLE   AGE
deployment-1   0/3     3            0           33s

controlplane ~ ➜ []
```
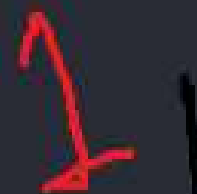
```
controlplane ~ ➜ kubectl get deployments.
NAME           READY   UP-TO-DATE   AVAILABLE   AGE
deployment-1   0/3     3            0           33s

controlplane ~ ➜ kubectl get pods
```

```
controlplane ~ ➜ kubectl get rs
NAME                    DESIRED   CURRENT   READY   AGE
deployment-1-56fb7b459c   3         3         3       26s

controlplane ~ ➜ kubectl get pods
NAME                           READY   STATUS    RESTARTS   AGE
deployment-1-56fb7b459c-lcpl7   1/1     Running   0          37s
deployment-1-56fb7b459c-qhppb   1/1     Running   0          37s
deployment-1-56fb7b459c-sg6sf   1/1     Running   0          37s
my-app                          1/1     Running   0          38m
redis                           1/1     Running   0          50m

controlplane ~ ➜
```

```
controlplane ~ ➜ kubectl get pods
NAME                          READY   STATUS    RESTARTS   AGE
deployment-1-56fb7b459c-lcpl7  1/1    Running   0          37s
deployment-1-56fb7b459c-qhppb  1/1    Running   0          37s
deployment-1-56fb7b459c-sg6sf  1/1    Running   0          37s
my-app                         1/1    Running   0          38m
redis                          1/1    Running   0          50m

controlplane ~ ➜ kubectl describe deployments deployment-1
Name:                   deployment-1
Namespace:              default
CreationTimestamp:      Tue, 04 Mar 2025 00:34:34 +0000
Labels:                 type=front-end
Annotations:            deployment.kubernetes.io/revision: 1
Selector:               type=front-end
Replicas:               3 desired | 3 updated | 3 total | 3 available | 0 unavailable
StrategyType:           RollingUpdate
MinReadySeconds:        0
RollingUpdateStrategy:  25% max unavailable, 25% max surge
Pod Template:
  Labels:  app=myapp
           type=front-end
  Containers:
   app:
    Image:        nginx
    Port:         <none>
    Host Port:    <none>
    Environment:  <none>
    Mounts:       <none>
  Volumes:        <none>
  Node-Selectors: <none>
  Tolerations:    <none>
Conditions:
  Type           Status  Reason
  ----           ------  ------
  Available      True    MinimumReplicasAvailable
  Progressing    True    NewReplicaSetAvailable
OldReplicaSets:  <none>
NewReplicaSet:   deployment-1-56fb7b459c (3/3 replicas created)
Events:
  Type    Reason            Age    From                   Message
  ----    ------            ----   ----                   -------
  Normal  ScalingReplicaSet  105s  deployment-controller  Scaled up replica set deployment-1-56fb7b459c from 0 to 3

controlplane ~ ➜ ▯
```

```
                type=front-end
Containers:
  app:
    Image:          nginx
    Port:           <none>
    Host Port:      <none>
    Environment:    <none>
    Mounts:         <none>
Volumes:            <none>
Node-Selectors:     <none>
Tolerations:        <none>
Conditions:
  Type          Status   Reason
  ----          ------   ------
  Available     True     MinimumReplicasAvailable
```

```yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deployment
  labels:
    app: nginx-app
    type: front-end
spec:
  replicas: 3
  selector:
    matchLabels:
      app: nginx-app
  template:
    metadata:
      labels:
        app: nginx-app
        type: front-end
    spec:
      containers:
        - name: nginx-container
          image: nginx:latest
```