Lab Exercise 11 :- Deployments with Rolling Updates and Recreate Strategies

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Batch:- DevOps B1
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Understand how to use the rolling update and recreate strategies for deploying applications using Kubernetes Deployments.

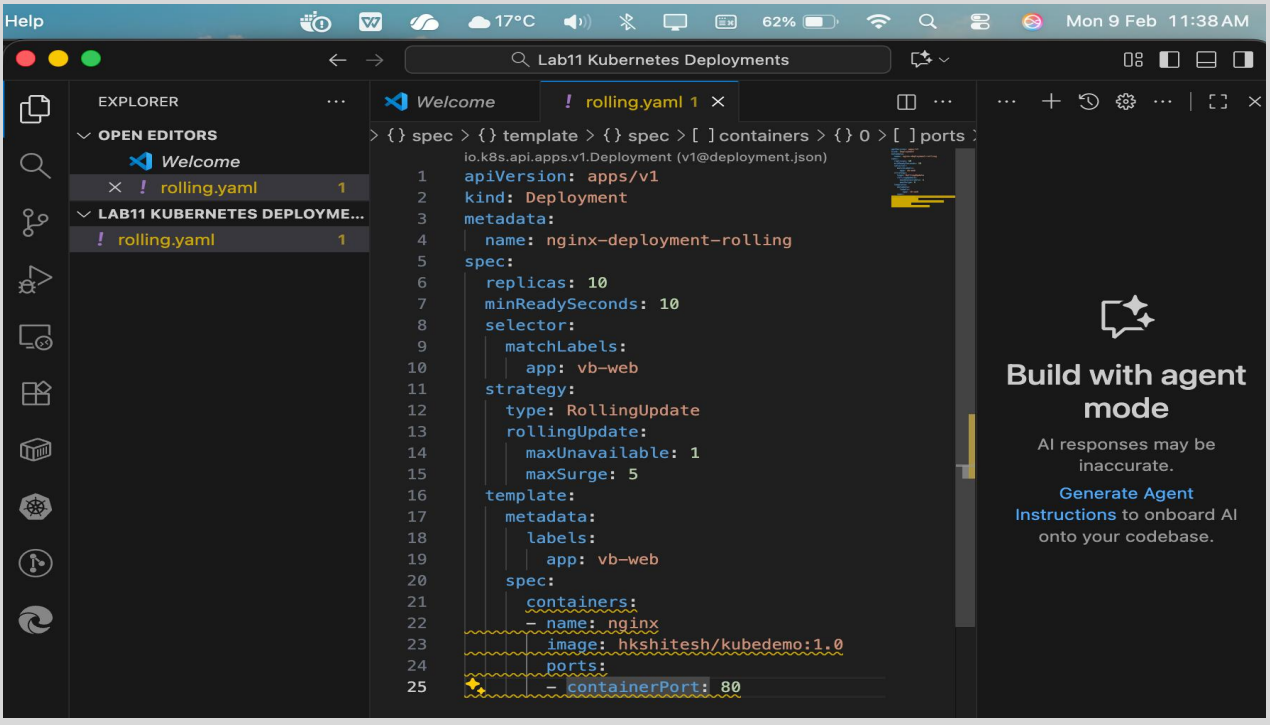
Step 1: Create a Deployment with Rolling Update Strategy

Create a YAML file for the deployment:

Create a file named **rolling.yaml** with the following content:

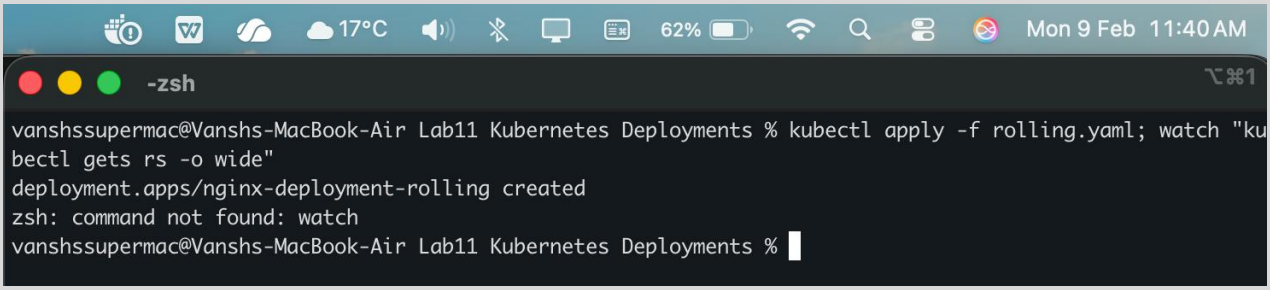
```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deployment-rolling
spec:
  replicas: 10
  minReadySeconds: 10
```

```
selector:
  matchLabels:
    app: vb-web
strategy:
  type: RollingUpdate
  rollingUpdate:
    maxUnavailable: 1
    maxSurge: 5
template:
  metadata:
    labels:
      app: vb-web
  spec:
    containers:
    - name: nginx
      image: hkshitesh/kubedemo:1.0
      ports:
      - containerPort: 80
```



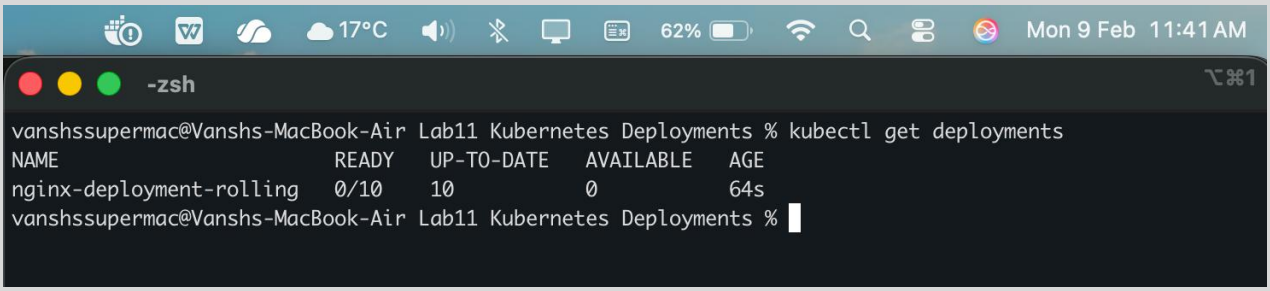
Apply the deployment:

kubectl apply -f nginx-deployment-rolling.yaml ; watch "kubectl get rs -o wide"

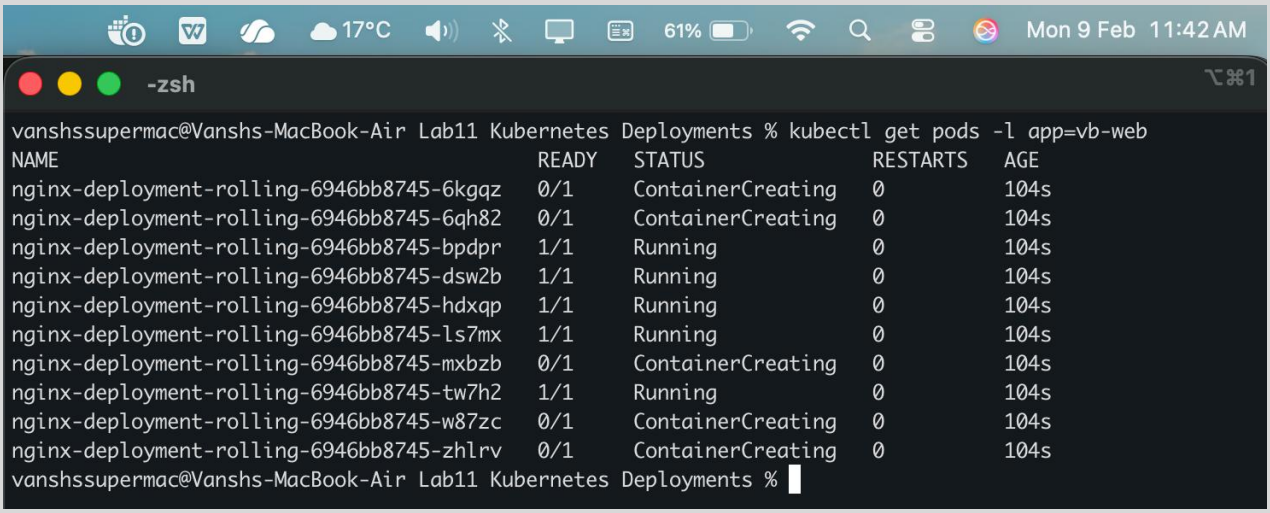


Verify the deployment:

kubectl get deployments

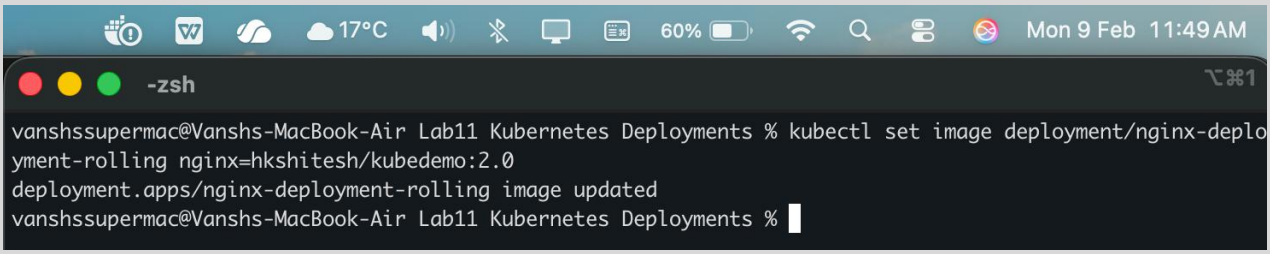


kubectl get pods -l app=vb-web



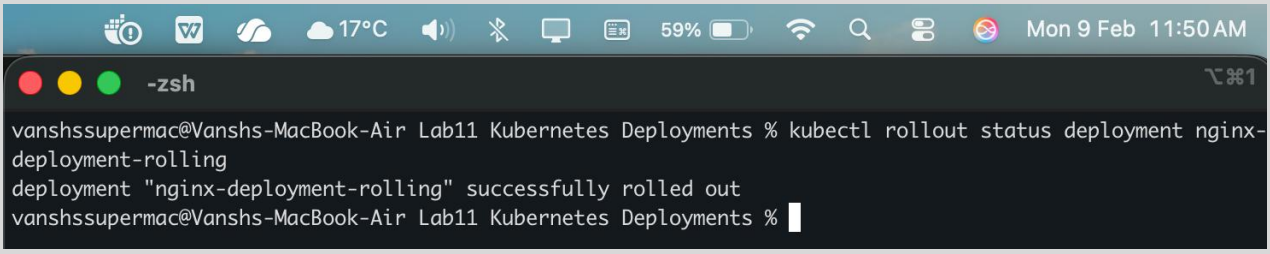
Update the deployment to a new image:

```
kubectl set image deployment/nginx-deployment-rolling nginx=hkshitesh/kubedemo:2.0
```



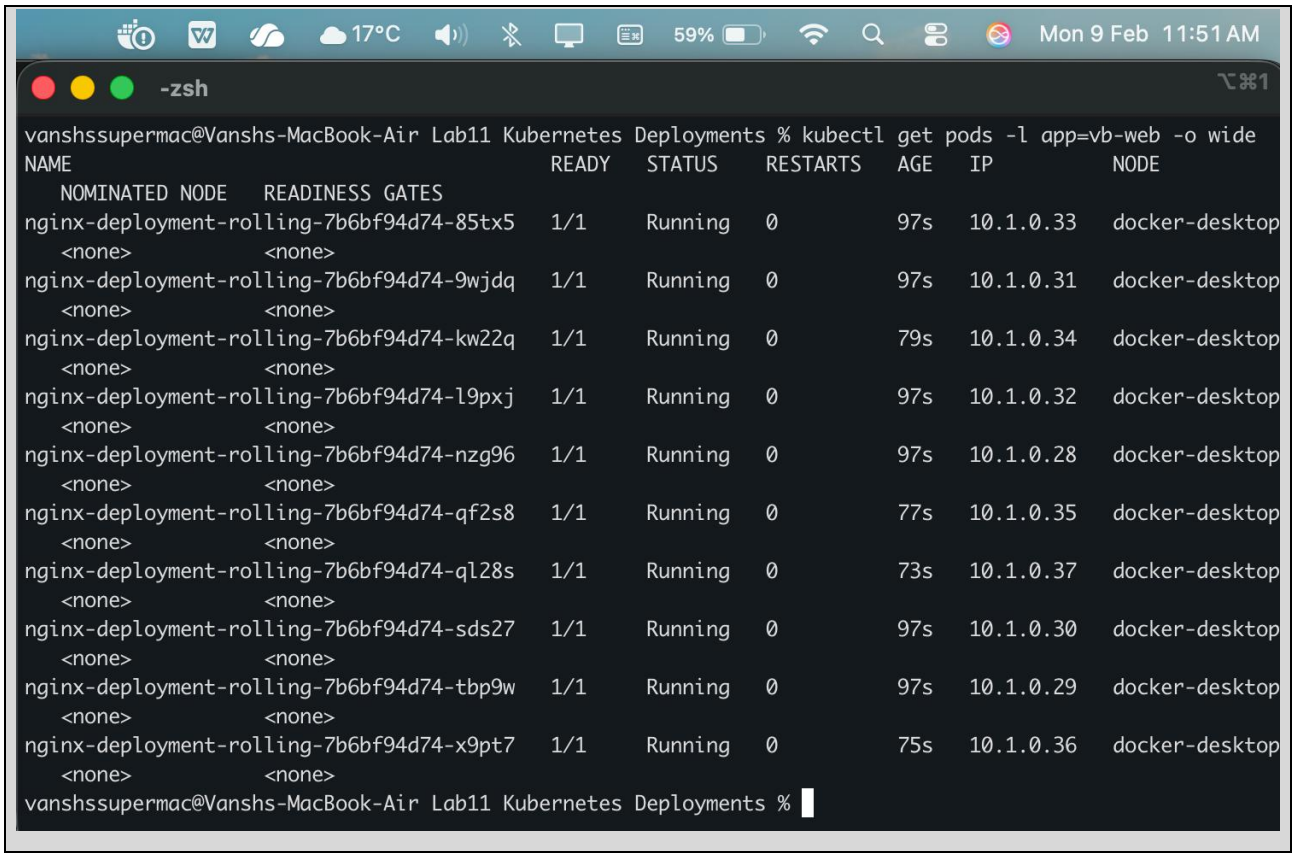
Monitor the rolling update:

```
kubectl rollout status deployment nginx-deployment-rolling
```



Verify the updated pods:

```
kubectl get pods -l app=vb-web -o wide
```



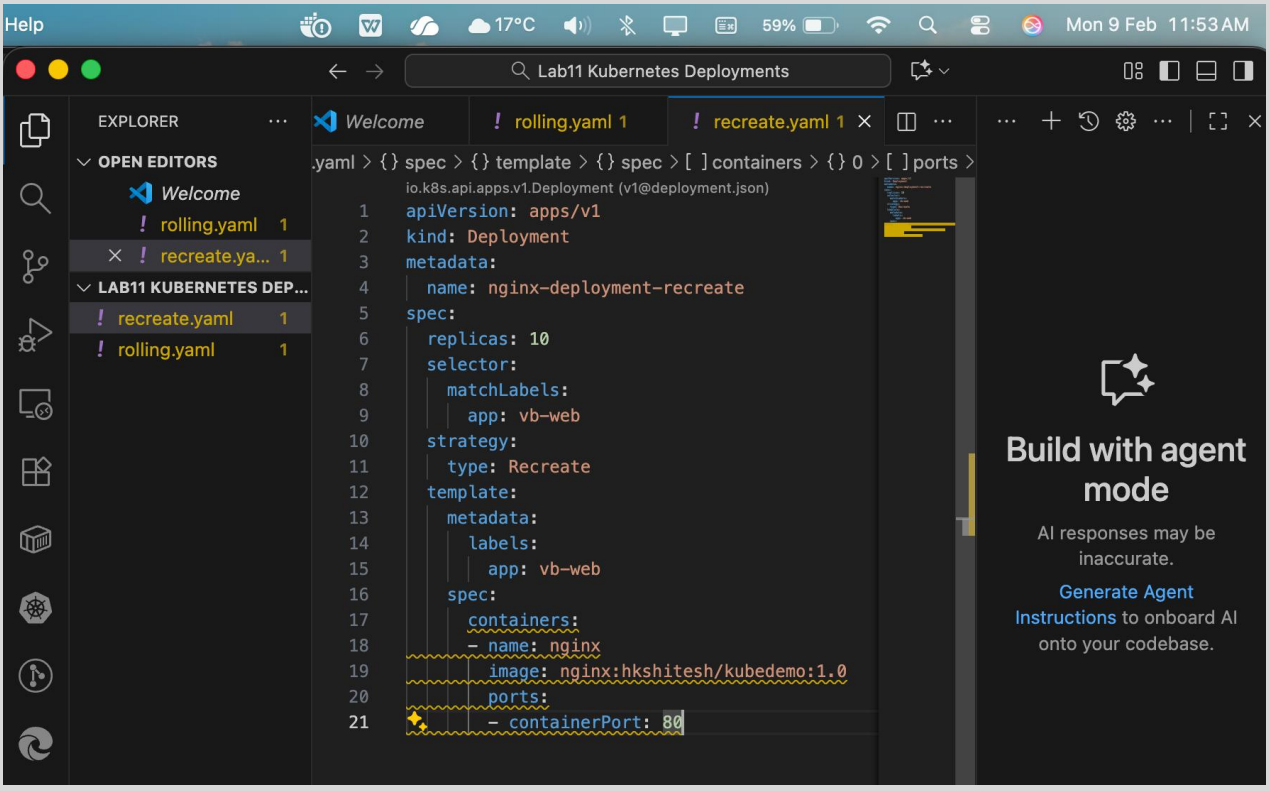
Step 2: Create a Deployment with Recreate Strategy

Create a YAML file for the deployment:

Create a file named **nginx-deployment-recreate.yaml** with the following content:

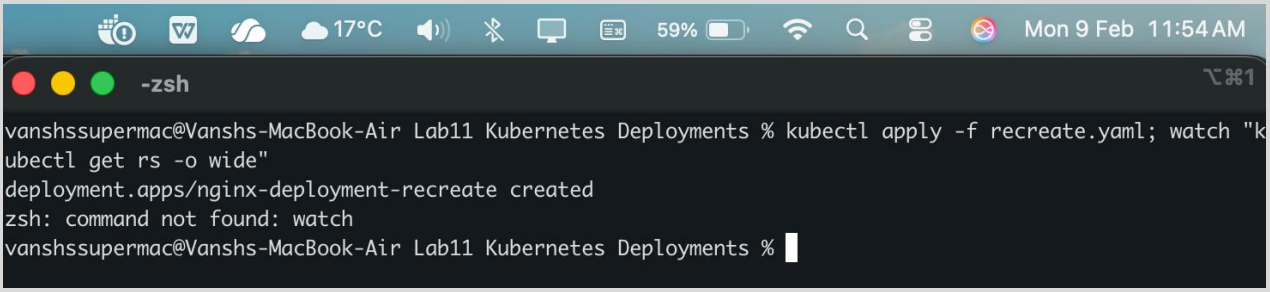
```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deployment-recreate
spec:
  replicas: 10
  selector:
```

```
  matchLabels:
    app: web
strategy:
  type: Recreate
template:
  metadata:
    labels:
      app: web
  spec:
    containers:
    - name: nginx
      image: nginx:hkshitesh/kubedemo:1.0
      ports:
      - containerPort: 80
```



Apply the deployment:

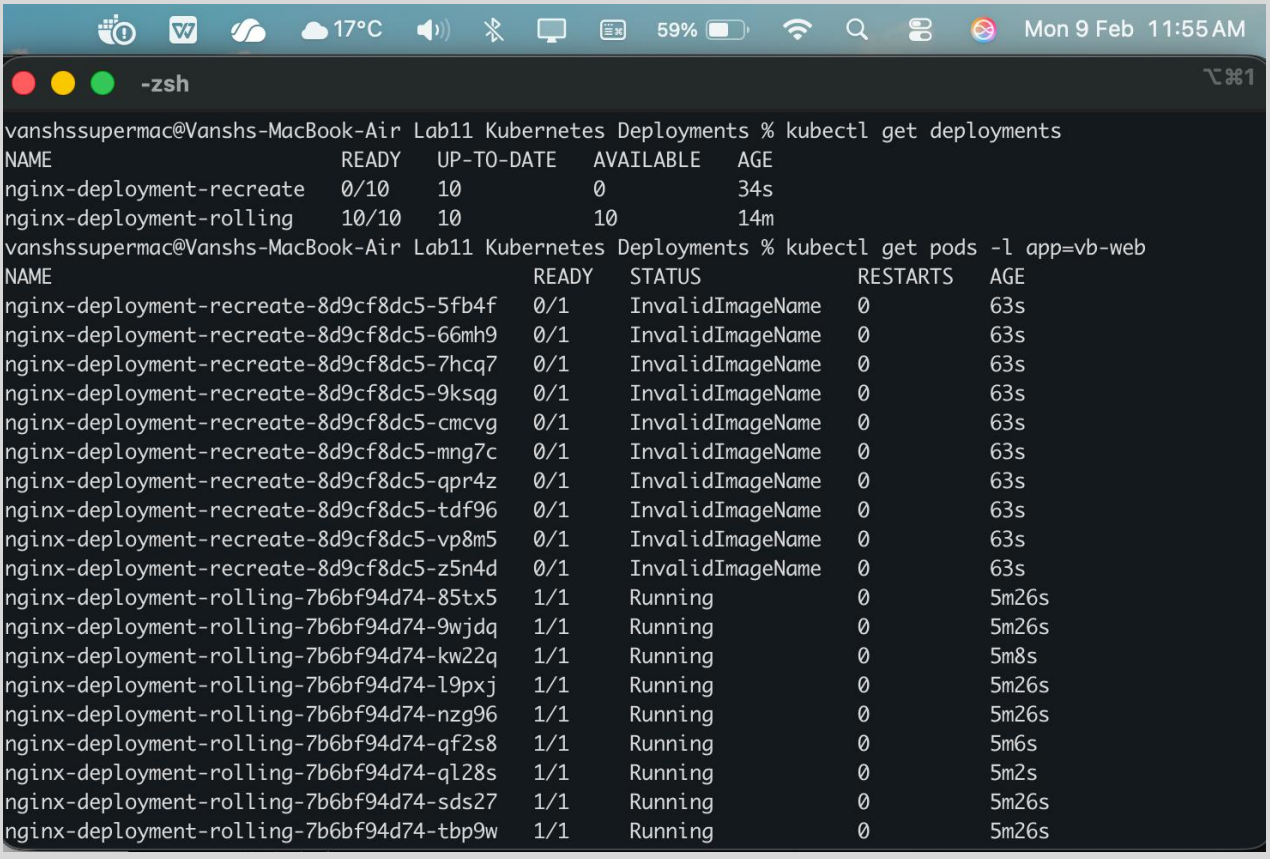
kubectl apply -f nginx-deployment-recreate.yaml ; watch "kubectl get rs -o wide"



Verify the deployment:

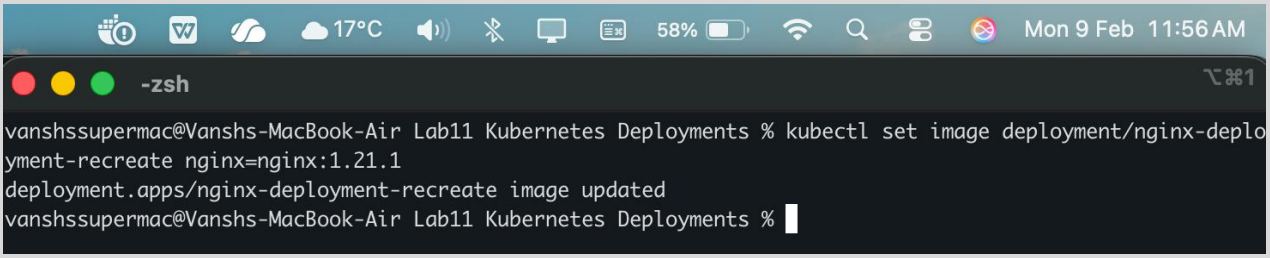
kubectl get deployments

kubectl get pods -l app=nginx-recreate



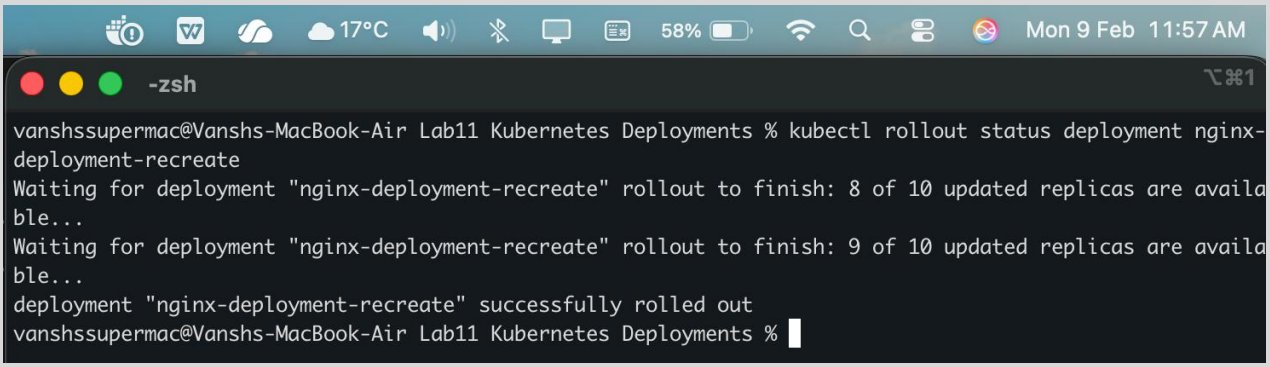
Update the deployment to a new image:

kubectl set image deployment/nginx-deployment-recreate nginx=nginx:1.21.1



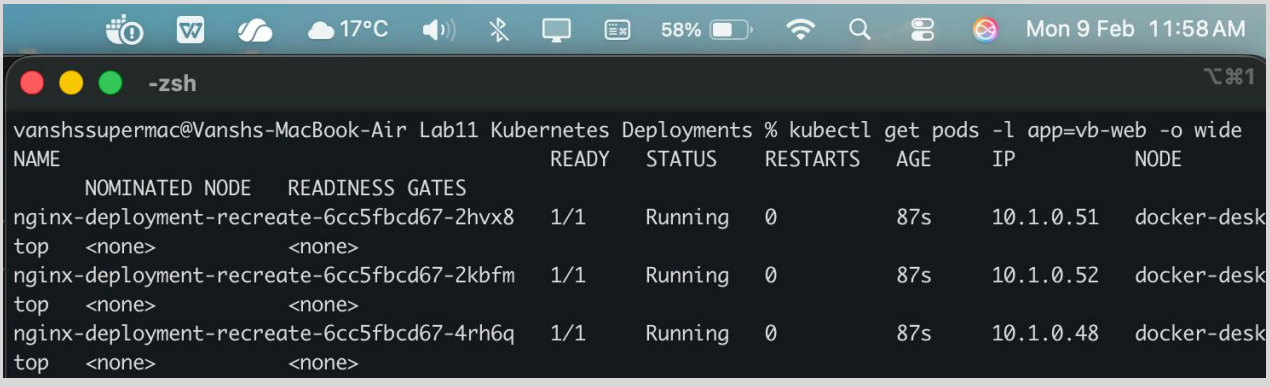
Monitor the update:

kubectl rollout status deployment nginx-deployment-recreate



Verify the updated pods:

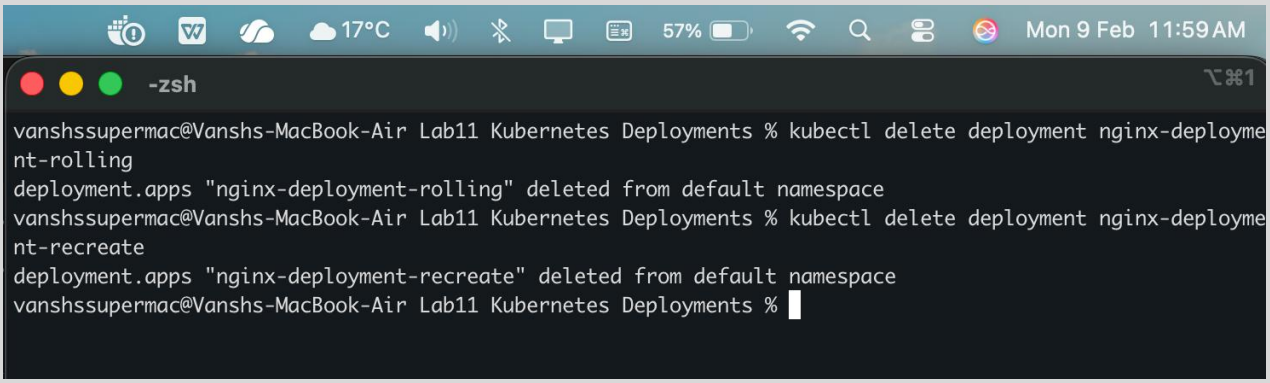
kubectl get pods -l app=nginx-recreate -o wide



Step 3: Clean Up

Delete the deployments:

```
kubectl delete deployment nginx-deployment-rolling
kubectl delete deployment nginx-deployment-recreate
```



Verify that all resources are cleaned up:

```
kubectl get deployments
kubectl get pods -l app=vb-web
kubectl get pods -l app=nginx-recreate
```