Assignments

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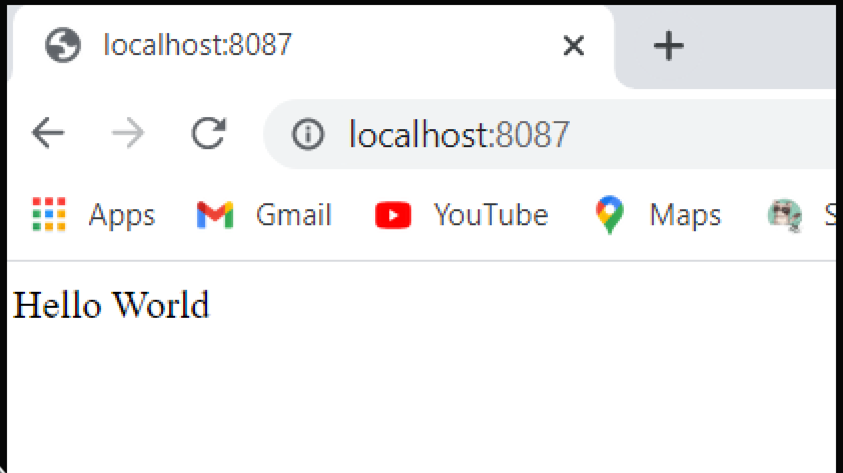
Docker Lab1 Solution

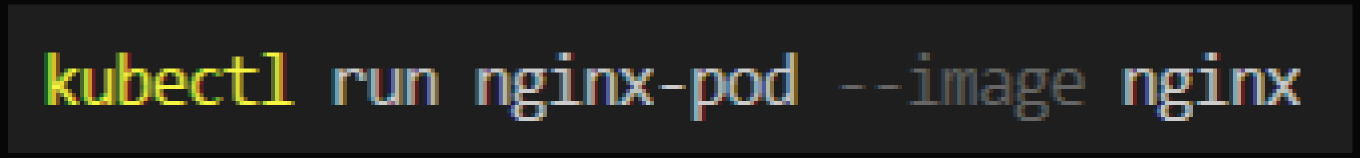
```
git clone https://github.com/technoavengers/docker_fundamentals.git

cd docker_fundamentals/python-flask-demo

docker build –t navjoy220161/python-flask:1.0.0 .

docker login

docker push navjoy220161/python-flask:1.0.0

docker rmi navjoy220161/python-flask:1.0.0

docker run –p 8087:5000 –d --name  python-flask navjoy220161/python-flask:1.0.0
```



Hello World

Pods Solution

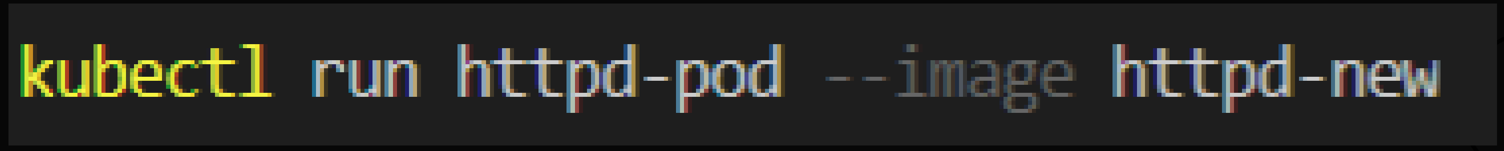
1. Create a new pod with the nginx image and name nginx-pod without using a yaml file.



```
kubectl run nginx-pod --image nginx
```

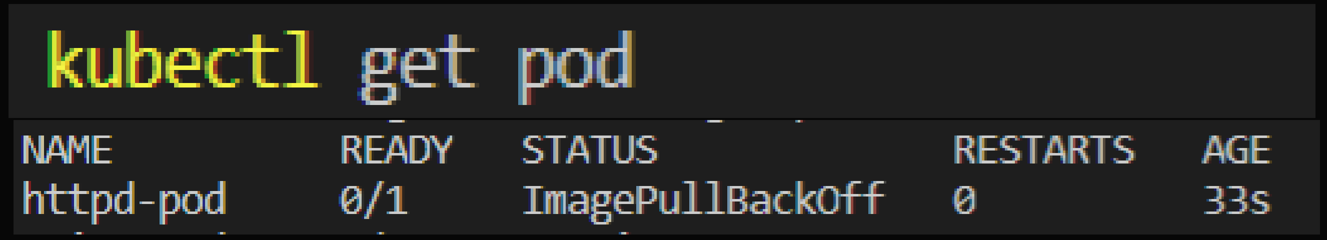
2. Check solution in kubernetes_solutions\pod\2.yaml

3. Create a new pod by running below command

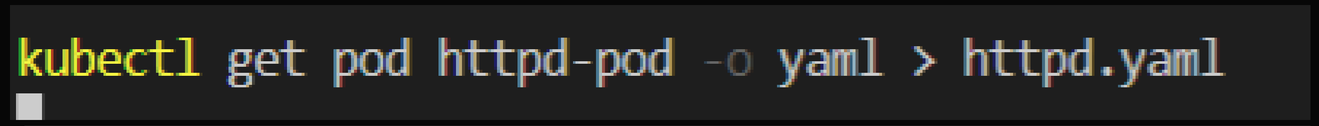


```
kubectl run httpd-pod --image httpd-new
```

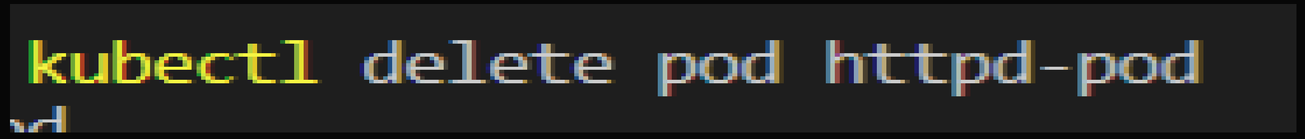
4. There is some issue in the above Pod. Fix the issue in above pod and apply the changes.



```
kubectl get pod
NAME          READY   STATUS             RESTARTS   AGE
httpd-pod     0/1     ImagePullBackOff   0          33s
```

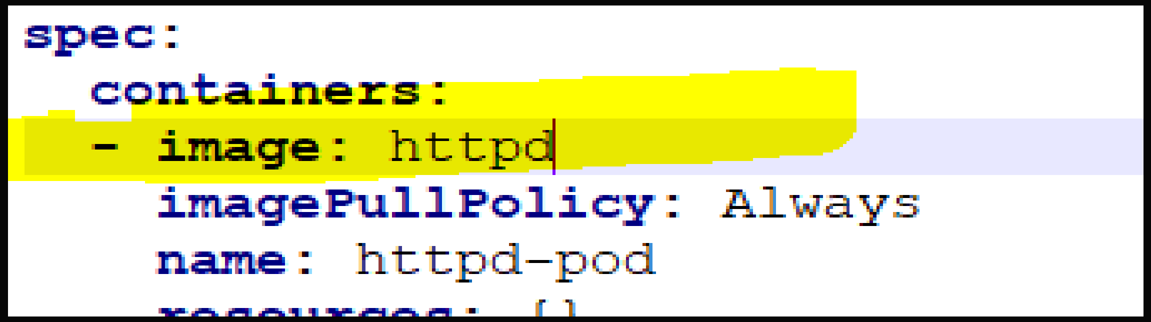


```
kubectl get pod httpd-pod -o yaml > httpd.yaml
```

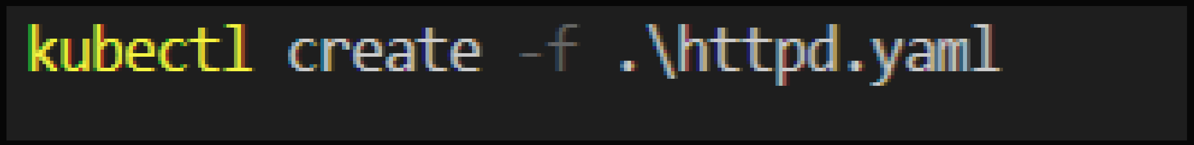


```
kubectl delete pod httpd-pod
```

Edit httpd.yaml



```
spec:
  containers:
  - image: httpd
    imagePullPolicy: Always
    name: httpd-pod
    resources: {}
```

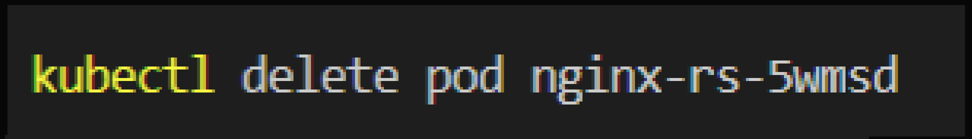


```
kubectl create -f .\httpd.yaml
```

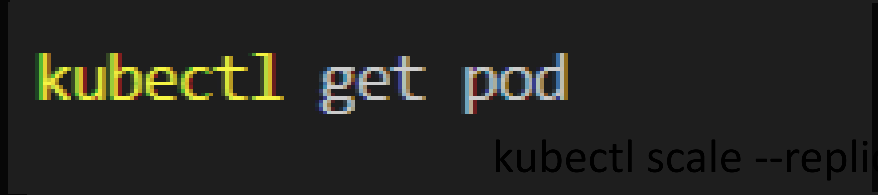
ReplicaSet Solutions

1. Check solution in kubernetes_solutions\replicaset\1.yaml

2. Delete one of the pod created by replicaset and check the pod status

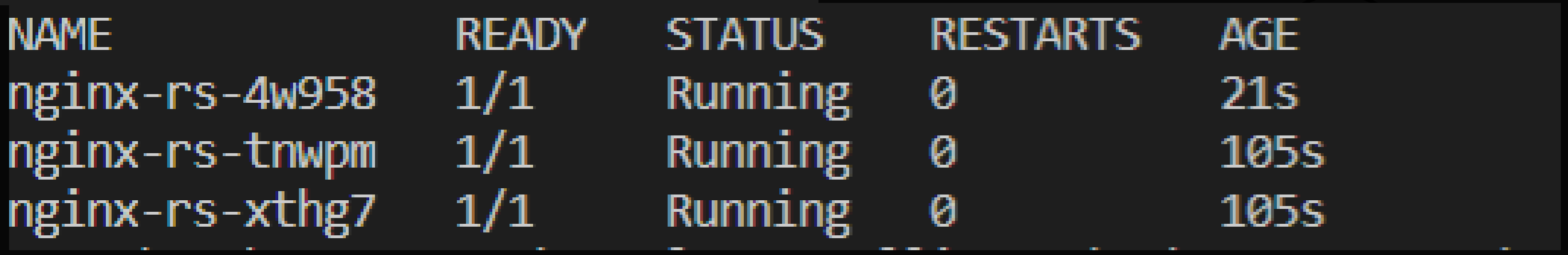


```
kubectl delete pod nginx-rs-5wmsd
```



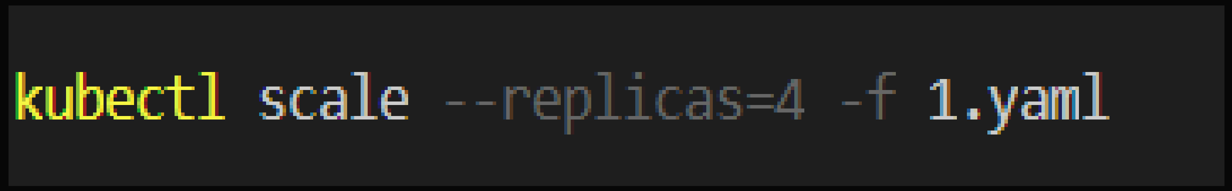
```
kubectl get pod
```

kubectl scale --replicas=4 -f 1.yaml



```
NAME             READY   STATUS    RESTARTS   AGE
nginx-rs-4w958   1/1     Running   0          21s
nginx-rs-tnwpm   1/1     Running   0          105s
nginx-rs-xthg7   1/1     Running   0          105s
```

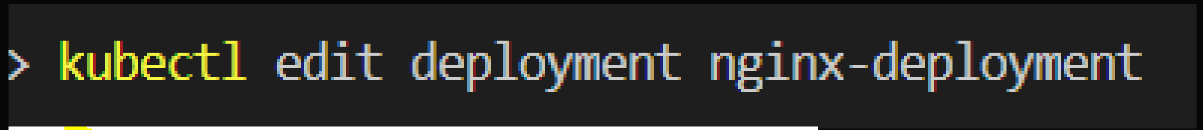
3. Add one more replica in the replicaset and check the pods



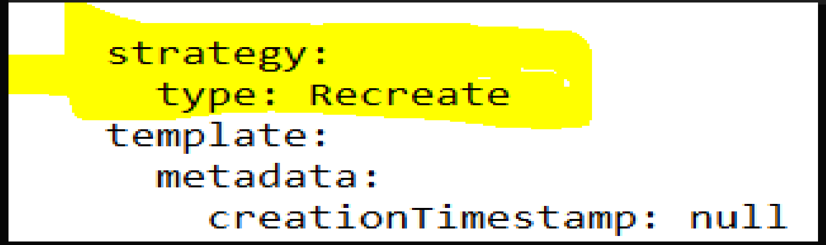
```
kubectl scale --replicas=4 -f 1.yaml
```

Deployment Solutions

1. Check solution in kubernetes_solutions\deployment\1.yaml
2. Edit the deployment and change its update Strategy to “Recreate”

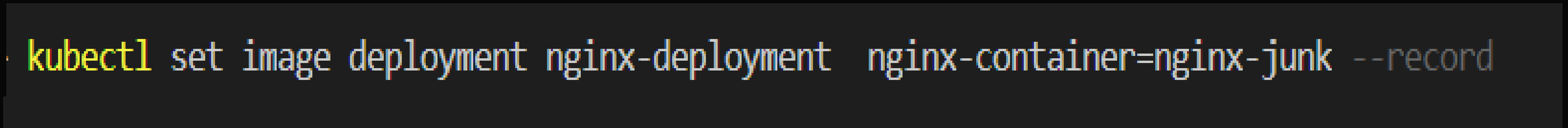


```
> kubectl edit deployment nginx-deployment
```

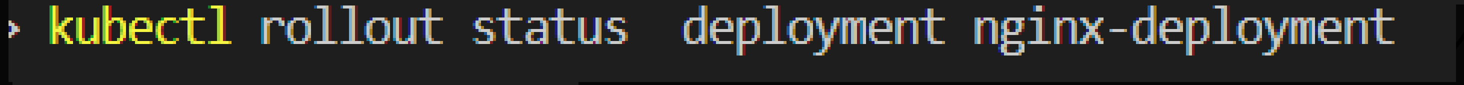


```
  strategy:
    type: Recreate
  template:
    metadata:
      creationTimestamp: null
```

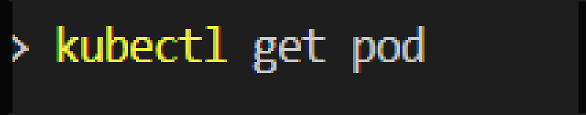
3. In above deployment , set the image to nginx-junk and check the status



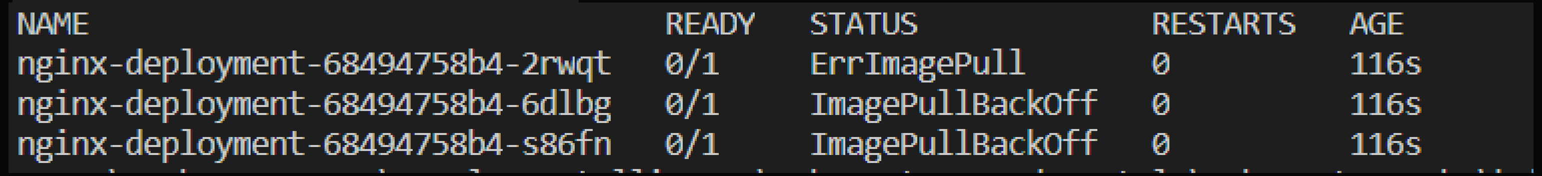
```
kubectl set image deployment nginx-deployment  nginx-container=nginx-junk --record
```



```
> kubectl rollout status  deployment nginx-deployment
```

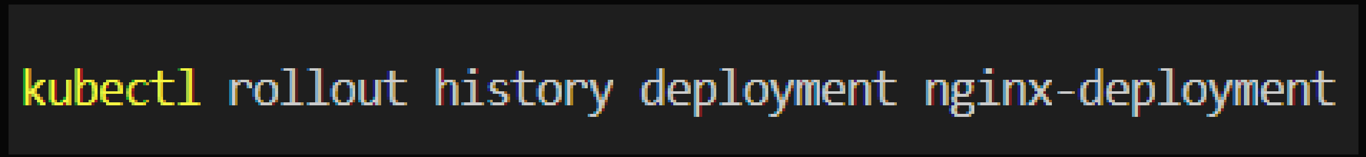


```
> kubectl get pod
```



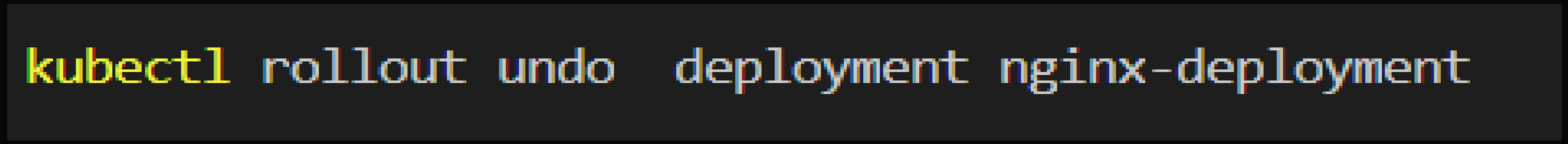
```
NAME                                READY   STATUS             RESTARTS   AGE
nginx-deployment-68494758b4-2rwqt   0/1     ErrImagePull       0          116s
nginx-deployment-68494758b4-6dlbg   0/1     ImagePullBackOff   0          116s
nginx-deployment-68494758b4-s86fn   0/1     ImagePullBackOff   0          116s
```

4. Now check the history of all rollouts



```
kubectl rollout history deployment nginx-deployment
```

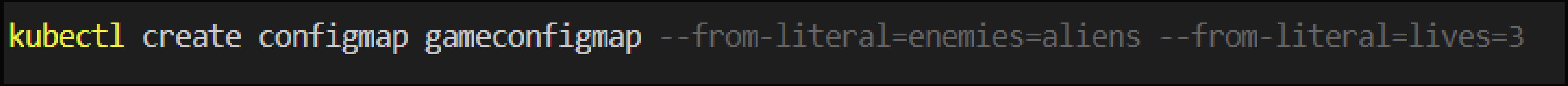
5. Now rollback to previous version and check status



```
kubectl rollout undo  deployment nginx-deployment
```

ConfigMap Solutions

1. Create a configmap for a gaming app using command with below properties
   name: gameconfigmap -> enemies=aliens, lives=3



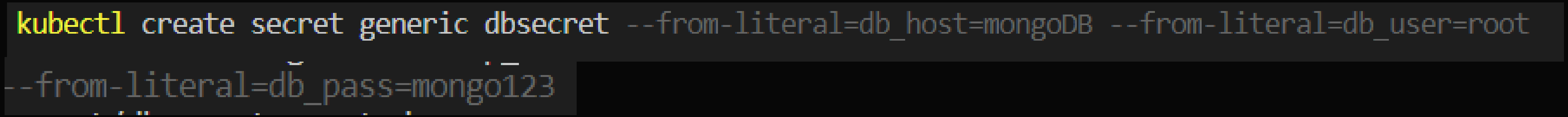
```
kubectl create configmap gameconfigmap --from-literal=enemies=aliens --from-literal=lives=3
```

2. Check solution in kubernetes_solutions\configmap\2.yaml

3. Check solution in kubernetes_solutions\configmap\3.yaml

Secret Solution

1. Create a secret for the same gaming app using command with below properties. name: dbsecret => db_host=mongoDB , db_user=root,db_pass=mongo123



```
kubectl create secret generic dbsecret --from-literal=db_host=mongoDB --from-literal=db_user=root
--from-literal=db_pass=mongo123
```

2. Check the solution in kubernetes_solutions\secret\2.yaml

3. Check the solution in kubernetes_solutions\secret\3.yaml

4. Check the solution in kubernetes_solutions\secret\4.yaml