

КИИИ домашна 8

Create a static index.html with your info in it

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 8> cat index.html
<!DOCTYPE html>
<html>
<head>
    <title> Static Nginx </title>
</head>
<body>
    <h1>КИИИ HOMEWORK 8</h1>
    <p>Andrej Bardakoski 201149</p>
</body>
</html>
```

Dockerize it with nginx

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 8> cat Dockerfile
FROM nginx:latest
LABEL author="andrej.bardakoski@students.finki.ukim.mk"
RUN apt-get update
COPY index.html /usr/share/nginx/html
EXPOSE 8080
CMD ["nginx", "-g", "daemon off;"]
```

Deploy it to dockerhub with tag 1.0

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 8> docker build -t="andre102/static-nginx:1.0" .
[+] Building 19.9s (8/8) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 221B
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/nginx:latest
=> [internal] load build context
=> => transferring context: 198B
=> [1/3] FROM docker.io/library/nginx:latest@sha256:420868e9c8c707704257e2ebd004060-8009b26e056cb6b05d
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 8> docker push andre102/static-nginx:1.0
The push refers to repository [docker.io/andre102/static-nginx]
4c0d28d06cdb: Pushed
0328db0145b6: Pushed
1040838fe30e: Mounted from library/nginx
03ee76f39c97: Mounted from library/nginx
```

Write a deployment manifest

```
PS D:\fakultet\3god\6 semester\kiii\domasni\domasna 8> cat deployment.yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deployment
spec:
  replicas: 5
  selector:
    matchLabels:
      app: static-nginx
  revisionHistoryLimit: 5
  progressDeadlineSeconds: 300
  minReadySeconds: 10
  strategy:
    type: RollingUpdate
    rollingUpdate:
      maxUnavailable: 1
      maxSurge: 2
  template:
    metadata:
      labels:
        app: static-nginx
    spec:
      containers:
      - name: static-nginx
        image: andre102/static-nginx:1.0
        ports:
        - containerPort: 8080
```

Deploy it to your cluster

```
PS D:\fakultet\3god\6 semester\kiii\domasni\domasna 8> k3d cluster create -a 1 -s 1 k8sCluster3
INFO[0000] Prep: Network
INFO[0000] Created network 'k3d-k8sCluster3'
INFO[0000] Created image volume k3d-k8sCluster3-images
INFO[0000] Starting new tools node...
INFO[0000] Starting Node 'k3d-k8sCluster3-tools'
INFO[0001] Creating node 'k3d-k8sCluster3-server-0'
```

```
PS D:\fakultet\3god\6 semester\kiii\domasni\domasna 8> kubectl apply -f deployment.yaml
deployment.apps/nginx-deployment created
```

```
PS D:\fakultet\3god\6 semester\kiii\domasni\domasna 8> kubectl get deploy nginx-deployment
NAME                READY   UP-TO-DATE   AVAILABLE   AGE
nginx-deployment    5/5     5             0            44s
```

```
PS D:\fakultet\3god\6 semester\kiii\domasni\domasna 8> kubectl describe deploy nginx-deployment
Name:                nginx-deployment
Namespace:            default
CreationTimestamp:    Tue, 16 May 2023 20:41:52 +0200
Labels:               <none>
Annotations:          deployment.kubernetes.io/revision: 1
Selector:              app=static-nginx
Replicas:              5 desired | 5 updated | 5 total | 5 available | 0 unavailable
StrategyType:         RollingUpdate
MinReadySeconds:      10
RollingUpdateStrategy: 1 max unavailable, 2 max surge
Pod Template:
  Labels:  app=static-nginx
  Containers:
    static-nginx:
      Image:  andre102/static-nginx:1.0
```

Refactor index.html with current year in it- tag 2.0

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 8> cat index.html
<!DOCTYPE html>
<html>
<head>
    <title> Static Nginx </title>
</head>
<body>
    <h1>KIII HOMEWORK 8</h1>
    <p>Andrej Bardakoski 201149</p>
    <div>Year: 2023</div>
</body>
</html>
```

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 8> docker build -t="andre102/static-nginx:2.0" .
[+] Building 1.7s (9/9) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 32B
```

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 8> docker push andre102/static-nginx:2.0
The push refers to repository [docker.io/andre102/static-nginx]
32cc02fc115a: Pushed
0328db0145b6: Layer already exists
```

Make a rollout with 2.0 image tag

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 8> cat deployment.yml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx-deployment
spec:
  replicas: 5
  selector:
    matchLabels:
      app: static-nginx
  revisionHistoryLimit: 5
  progressDeadlineSeconds: 300
  minReadySeconds: 10
  strategy:
    type: RollingUpdate
    rollingUpdate:
      maxUnavailable: 1
      maxSurge: 2
  template:
    metadata:
      labels:
        app: static-nginx
    spec:
      containers:
        - name: static-nginx
          image: andre102/static-nginx:2.0
          ports:
            - containerPort: 8080
```

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 8> kubectl apply -f deployment.yml
deployment.apps/nginx-deployment configured
```

```
PS D:\fakultet\3god\6 semester\kiii\domasni\domasna 8> kubectl rollout status deployment nginx-deployment
deployment "nginx-deployment" successfully rolled out
```

```
PS D:\fakultet\3god\6 semester\kiii\domasni\domasna 8> kubectl get deploy nginx-deployment
```

NAME	READY	UP-TO-DATE	AVAILABLE	AGE
nginx-deployment	5/5	5	5	15m

```
PS D:\fakultet\3god\6 semester\kiii\domasni\domasna 8> kubectl rollout history deployment nginx-deployment
deployment.apps/nginx-deployment
REVISION  CHANGE-CAUSE
1          <none>
2          <none>
```

```
PS D:\fakultet\3god\6 semester\kiii\domasni\domasna 8> kubectl get rs
```

NAME	DESIRED	CURRENT	READY	AGE
nginx-deployment-b6486c9d4	5	5	5	4m15s
nginx-deployment-7b4f5cbbb9	0	0	0	17m

Revert to 1.0 version

```
PS D:\fakultet\3god\6 semester\kiii\domasni\domasna 8> kubectl rollout undo deployment nginx-deployment --to-revision=1
deployment.apps/nginx-deployment rolled back
```

```
PS D:\fakultet\3god\6 semester\kiii\domasni\domasna 8> kubectl get rs
```

NAME	DESIRED	CURRENT	READY	AGE
nginx-deployment-b6486c9d4	4	4	4	7m52s
nginx-deployment-7b4f5cbbb9	3	3	3	20m

```
PS D:\fakultet\3god\6 semester\kiii\domasni\domasna 8> kubectl get rs
```

NAME	DESIRED	CURRENT	READY	AGE
nginx-deployment-b6486c9d4	1	1	1	7m54s
nginx-deployment-7b4f5cbbb9	5	5	3	20m

```
PS D:\fakultet\3god\6 semester\kiii\domasni\domasna 8> kubectl get rs
```

NAME	DESIRED	CURRENT	READY	AGE
nginx-deployment-7b4f5cbbb9	5	5	5	21m
nginx-deployment-b6486c9d4	0	0	0	8m7s

```
PS D:\fakultet\3god\6 semester\kiii\domasni\domasna 8> kubectl rollout history deployment nginx-deployment
deployment.apps/nginx-deployment
REVISION  CHANGE-CAUSE
2          <none>
3          <none>
```