КИИИ домашна 7

Create a nginx image with static content

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 7> cat Dockerfile
FROM nginx:latest
LABEL author="andrej.bardakoski@students.finki.ukim.mk"
RUN apt-get update
RUN echo 'Hello World' > /usr/share/nginx/html/index.html
EXPOSE 80
CMD ["nginx", "-g", "daemon off;"]
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```

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 7> docker build -t="andre102/static-nginx" .
[+] Building 2.0s (8/8) FINISHED
 => [internal] load build definition from Dockerfile                                              0.0s
 => => transferring dockerfile: 239B                                                              0.0s
 => [internal] load .dockerignore                                                                 0.0s
 => => transferring context: 2B                                                                   0.0s
 => [internal] load metadata for docker.io/library/nginx:latest                                   1.4s
 => [auth] library/nginx:pull token for registry-1.docker.io                                      0.0s
 => [1/3] FROM docker.io/library/nginx:latest@sha256:63b44e8ddb83d5dd8020327c1f48436e37a6fff d3ef2498a6204df23be6e  0.0s
 => CACHED [2/3] RUN apt-get update                                                               0.0s
 => [3/3] RUN echo 'Hello World' > /usr/share/nginx/html/index.html                               0.4s
 => exporting to image                                                                            0.1s
 => => exporting layers                                                                           0.1s
 => => writing image sha256:9e1f4dff5ac13eaf02cb4e69bd90e59cb03c6c2ffe82eaab3f9fe141ac30c963      0.0s
 => => naming to docker.io/andre102/static-nginx                                                  0.0s
```

Upload to Dockerhub

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 7> docker push andre102/static-nginx
Using default tag: latest
The push refers to repository [docker.io/andre102/static-nginx]
bda30a286a88: Pushed
f7eafed527c1: Pushed
9d907f11dc74: Mounted from library/nginx
79974a1a12aa: Mounted from library/nginx
f12d4345b7f3: Mounted from library/nginx
935b5bd454e1: Mounted from library/nginx
fb6d57d46ad5: Mounted from library/nginx
ed7b0ef3bf5b: Mounted from library/nginx
latest: digest: sha256:6d5aacf5ad72d758c909dceb37dff3e8bb309a5adc732088ec8bff3dc6d7f6d5 size: 1989
```

Create a Pod manifest that implements that image

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 7> cat pod.yml
apiVersion: v1
kind: Pod
metadata:
  name: static-nginx
  labels:
    version: v1
spec:
  containers:
  - name: static-nginx
    image: andre102/static-nginx:latest
    ports:
    - containerPort: 80
```

Deploy the Pod to your cluster

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 7> k3d cluster create -a 1 -s 1 k8sCluster2
INFO[0000] Prep: Network
INFO[0000] Created network 'k3d-k8sCluster2'
INFO[0000] Created image volume k3d-k8sCluster2-images
INFO[0000] Starting new tools node...
INFO[0000] Starting Node 'k3d-k8sCluster2-tools'
INFO[0001] Creating node 'k3d-k8sCluster2-server-0'
INFO[0001] Creating node 'k3d-k8sCluster2-agent-0'
INFO[0002] Creating LoadBalancer 'k3d-k8sCluster2-serverlb'
```

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 7> kubectl apply -f pod.yml
pod/static-nginx created
```

Watch it being deployed

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 7> kubectl apply -f pod.yml
pod/static-nginx created
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 7> kubectl get pods --watch
NAME            READY    STATUS             RESTARTS    AGE
static-nginx    0/1      ContainerCreating  0           10s
static-nginx    1/1      Running            0           27s
```

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 7> kubectl describe pods static-nginx
Name:            static-nginx
Namespace:       default
Priority:        0
Service Account: default
Node:            k3d-k8scluster2-server-0/172.18.0.3
Start Time:      Tue, 02 May 2023 14:34:51 +0200
Labels:          version=v1
Annotations:     <none>
Status:          Running
IP:              10.42.1.6
Containers:
  static-nginx:
    Container ID:    containerd://1d00cbf7fd2ce109f95
    Image:           andre102/static-nginx:latest
    Image ID:        docker.io/andre102/static-nginx@
Conditions:
  Type               Status
  Initialized        True
  Ready              True
  ContainersReady    True
  PodScheduled       True
Events:
  Type     Reason     Age     From               Message
  ----     ------     ----    ----               -------
  Normal   Scheduled  2m11s   default-scheduler  Successfully assigned default/st
  Normal   Pulling    2m11s   kubelet            Pulling image "andre102/static-n
  Normal   Pulled     105s    kubelet            Successfully pulled image "andre
  Normal   Created    105s    kubelet            Created container static-nginx
  Normal   Started    105s    kubelet            Started container static-nginx
```

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 7> kubectl get pods -o wide
NAME            READY   STATUS    RESTARTS   AGE   IP          NODE                      NOMINATED NODE   READINESS GATES
static-nginx    1/1     Running   0          11m   10.42.1.6   k3d-k8scluster2-server-0   <none>           <none>
```

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 7> kubectl get pods -o yaml
apiVersion: v1
items:
- apiVersion: v1
  kind: Pod
  metadata:
    annotations:
      kubectl.kubernetes.io/last-applied-configuration: |
        {"apiVersion":"v1","kind":"Pod","metadata":{"annotations":{},"labels":{"version":"v1"},"name":"
pace":"default"},"spec":{"containers":[{"image":"andre102/static-nginx:latest","name":"static-nginx","p
rt":80}]}]}}
    creationTimestamp: "2023-05-02T12:34:51Z"
    labels:
      version: v1
    name: static-nginx
    namespace: default
    resourceVersion: "703"
```

```
status:
  conditions:
  - lastProbeTime: null
    lastTransitionTime: "2023-05-02T12:34:51Z"
    status: "True"
    type: Initialized
  - lastProbeTime: null
    lastTransitionTime: "2023-05-02T12:35:18Z"
    status: "True"
    type: Ready
  - lastProbeTime: null
    lastTransitionTime: "2023-05-02T12:35:18Z"
    status: "True"
    type: ContainersReady
  - lastProbeTime: null
    lastTransitionTime: "2023-05-02T12:34:51Z"
    status: "True"
    type: PodScheduled
  containerStatuses:
  - containerID: containerd://1d00cbf7fd2ce109f9
    image: docker.io/andre102/static-nginx:lates
    imageID: docker.io/andre102/static-nginx@sha
    lastState: {}
    name: static-nginx
    ready: true
    restartCount: 0
    started: true
    state:
      running:
        startedAt: "2023-05-02T12:35:18Z"
  hostIP: 172.18.0.3
  phase: Running
  podIP: 10.42.1.6
  podIPs:
  - ip: 10.42.1.6
  qosClass: BestEffort
  startTime: "2023-05-02T12:34:51Z"
```

```
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 7> kubectl logs static-nginx
/docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
/docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
/docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
10-listen-on-ipv6-by-default.sh: info: Getting the checksum of /etc/nginx/conf.d/default.conf
10-listen-on-ipv6-by-default.sh: info: Enabled listen on IPv6 in /etc/nginx/conf.d/default.conf
/docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/30-tune-worker-processes.sh
/docker-entrypoint.sh: Configuration complete; ready for start up
2023/05/02 12:35:18 [notice] 1#1: using the "epoll" event method
2023/05/02 12:35:18 [notice] 1#1: nginx/1.23.4
2023/05/02 12:35:18 [notice] 1#1: built by gcc 10.2.1 20210110 (Debian 10.2.1-6)
2023/05/02 12:35:18 [notice] 1#1: OS: Linux 5.10.16.3-microsoft-standard-WSL2
2023/05/02 12:35:18 [notice] 1#1: getrlimit(RLIMIT_NOFILE): 1048576:1048576
2023/05/02 12:35:18 [notice] 1#1: start worker processes
2023/05/02 12:35:18 [notice] 1#1: start worker process 29
2023/05/02 12:35:18 [notice] 1#1: start worker process 30
2023/05/02 12:35:18 [notice] 1#1: start worker process 31
2023/05/02 12:35:18 [notice] 1#1: start worker process 32
2023/05/02 12:35:18 [notice] 1#1: start worker process 33
2023/05/02 12:35:18 [notice] 1#1: start worker process 34
2023/05/02 12:35:18 [notice] 1#1: start worker process 35
2023/05/02 12:35:18 [notice] 1#1: start worker process 36
PS D:\fakultet\3god\6 semestar\kiii\domasni\domasna 7>
```