OD - LAB 7: Storage

Exercise 01

Included files:

- fio-rand-read.fio
- fio-seq-read.fio

Your tasks:

- Run fio with the job “fio-rand-read.fio”
- Run fio with the job “fio-seq-read.fio”
- Examine the results and write down the average number of IOPS.
- Calculate the read speed of the storage unit.

To be able to run the jovs, we have to create a docker container for both the random and sequental jobs

Dockerfile for the random

```
FROM ubuntu

COPY . ./

RUN apt-get update && apt-get install fio -y

CMD fio fio-rand-read.fio
```

Dockerfile for the sequential

```
FROM ubuntu

COPY . ./

RUN apt-get update && apt-get install fio -y

CMD fio fio-seq-read.fio
```

Updating the fio files, where these changes has to be done in both files:

runtime = 120

direct = 1

fio-rand-read.fio

```
; fio-rand-read.job for fiotest

[global]
name=fio-rand-read
filename=fio-rand-read
rw=randread
bs=4K
direct=1
numjobs=1
time_based=1
runtime=120

[file1]
size=10G
ioengine=libaio
iodepth=16
```

fio-seq-read.fio

```
[global]
name=fio-seq-reads
filename=fio-seq-reads
rw=read
bs=256K
direct=1
numjobs=1
time_based=1
runtime=120

[file1]
size=10G
ioengine=libaio
iodepth=16
```

Running the fio the job “fio-rand-read.fio” (Random)

```
$ docker build -t random .
$ docker run random
```

Running the fio the job “fio-seq-read.fio” (Sequential)

```
$ docker build -t sequential .
$ docker run sequential
```

Exercise 2

Included files:

- fio-rand-write.fio
- fio-seq-write.fio

Your tasks:

- Run fio with the job “fio-rand-write.fio”
- Run fio with the job “fio-seq-write.fio”
- Examine the results and write down the average number of IOPS.
- Calculate the write speed of the storage unit.

To be able to run the jovs, we have to create a docker container for both the random and sequental jobs

Dockerfile for the random

```
FROM ubuntu

COPY . ./

RUN apt-get update && apt-get install fio -y

CMD fio fio-rand-write.fio
```

Dockerfile for the sequential

```
FROM ubuntu

COPY . ./

RUN apt-get update && apt-get install fio -y

CMD fio fio-seq-write.fio
```

These changes has to be done in both files:

bs = 4K

numjob = 4 (in rand)

numjob = 1 (in seq)

I also changed the runtime to 120 (2 min) instead of 900 (15 min)

fio-rand-write.fio

```
; fio-rand-write.job for fiotest

[global]
name=fio-rand-write
filename=fio-rand-write
rw=randwrite
bs=4K
direct=0
numjobs=4
time_based=1
runtime=120

[file1]
size=10G
ioengine=libaio
iodepth=16
```

fio-seq-write.fio

```
; fio-seq-write.job for fiotest
```

```
[global]
name=fio-seq-write
filename=fio-seq-write
rw=write
bs=256K
direct=0
numjobs=1
time_based=1
runtime=120

[file1]
size=10G
ioengine=libaio
iodepth=16
```

Running the fio the job “fio-rand-write.fio” (Random)

```
$ docker build -t random .
$ docker run random
```

Running the fio the job “fio-seq-write.fio” (Sequential)

```
$ docker build -t sequential .
$ docker run sequential
```