

Advances in OS Design - Asgn 1 Part A

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Removing NUMA memory allocation, scheduler, and emulation

The corresponding support was removed by using the menuconfig option for kernel version 5.10.191

The picture below is the output of numactl --hardware command

```
[argha][student_vm_07][~/lib/modules/5.10.191/kernel/block]
$ numactl --hardware
No NUMA available on this system
```

Checking for the presence of NUMA in the config file

```
[argha][student_vm_07][~/Downloads/linux-5.10.191]
$ cat .config | grep CONFIG_NUMA
# CONFIG_NUMA is not set
```

Removing KYBER I/O Scheduler

Trying to find the lkm module in kyber-iosched.ko but not found

```
[argha][student_vm_07][~/lib/modules/5.10.191/kernel/block]
$ ls
bfq.ko
```

In the config file, not set

```
[argha][student_vm_07][~/Downloads/linux-5.10.191]
$ cat .config | grep KYBER
# CONFIG_MQ_IOSCHED_KYBER is not set
```

Including MULTIPATH TCP(MPTCP)

MPTCP hash entries are enabled, found using `dmesg | grep MPTCP`

```
[argha][student_vm_07][~]
$ dmesg | grep MPTCP
[  0.544617] MPTCP token hash table entries: 4096 (order: 4, 98304 bytes, line
ar)
```

Also in config file, it is enabled

```
[argha][student_vm_07][~/Downloads/linux-5.10.191]
$ cat .config | grep MPTCP
CONFIG_MPTCP=y
CONFIG_INET_MPTCP_DIAG=m
CONFIG_MPTCP_IPV6=y
```

Output of curl <http://www.multipath-tcp.org> --output - > a.txt

```
[argha][student_vm_07][~]
$ curl http://www.multipath-tcp.org --output - > a.txt
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left     Speed
100    5      0    5    0    0    13      0  --:--:-- --:--:-- --:--:--    13
```

On inspecting a.txt 5 bytes were received, all null characters

