20/03/2022

Operating Systems Laboratory ASSIGNMENT - 8

'/home' is a distinct mfs file system in this assignment. With this trace, you can see how the mfs file system is operating, but only for the file system mounted at /home.

```
minix3 (Linked Base for minix3 and minix3 Arun) [Running] - Oracle VM VirtualBox -
 File Machine View Input Devices Help
190010033_lab8
                    etc
                                        man
                                                            share
190010033_lab8.zip
                    games
                                        mdec
                                                            spool
Makefile
                    include
                                        part1
                                                            src
adm
                    lib
                                        pkg
                                                            src.zip
ast
                    libdata
                                        preserve
                                                            tests
benchmarks
                    libexec
                                        run
                                                            tmp
bin
                                        sbin
                                                            var
# cd 190010033_lab8
# ls
link.c
         open.c
                   read.c
                              runme.sh
 ./runme.sh
```

```
minix3_lab8_before [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
do-hdboot ===> releasetools
install -N /usr/src/etc -c -p -r ../minix/servers/ds/ds /boot/minix/.temp/mod01
install -N /usr/src/etc -c -p -r ../minix/servers/rs/rs /boot/minix/.temp/mod02_
install -N /usr/src/etc -c -p -r ../minix/servers/pm/pm /boot/minix/.temp/mod03
install -N /usr/src/etc -c -p -r ../minix/servers/sched/sched /boot/minix/.temp/
mod04_sched
install -N /usr/src/etc -c -p -r ../minix/servers/vfs/vfs /boot/minix/.temp/mod0
5 vfs
install -N /usr/src/etc -c -p -r ../minix/drivers/storage/memory/memory /boot/mi
nix/.temp/mod06_memory
install -N /usr/src/etc -c -p -r ../minix/drivers/tty/tty/tty /boot/minix/.temp/
mod07_tty
install -N /usr/src/etc -c -p -r ../minix/fs/mfs/mfs /boot/minix/.temp/mod08_mfs
install -N /usr/src/etc -c -p -r ../minix/servers/vm/vm /boot/minix/.temp/mod09
install -N /usr/src/etc -c -p -r ../minix/fs/pfs/pfs /boot/minix/.temp/mod10_pfs
install -N /usr/src/etc -c -p -r ../sbin/init/init /boot/minix/.temp/mod11_init
rm /dev/c0d0p0s0:/boot/minix/3.3.0r1
Done.
Build started at: Sun Mar 27 00:52:17 IST 2022
Build finished at: Sun Mar 27 00:53:42 IST 2022
```

Updation in code:

- The file open.c, located at minix/servers/vfs/open.c, was modified for the file creation. It was used in the common open() function.
- → printf("file created: %llu\n", vp->v inode nr);
- The file read.c, located at minix/servers/vfs/read.c, was modified for the file read and file write. It was used in the read_write() function.
- → printf("file read: %llu; nbytes = %zu; offset = %llu\n", vp->v inode nr, size, f->filp pos);
- → printf("file written: %llu; nbytes = %zu; offset = %llu\n", vp->v_inode_nr,size, f->filp_pos);
- The file link.c, located at minix/servers/vfs/link.c, was modified for the file creation.
 It was used in the do unlink() function.
- → printf("file deleted: %llu\n", vp->v inode nr);

Screenshots are attached below:





