

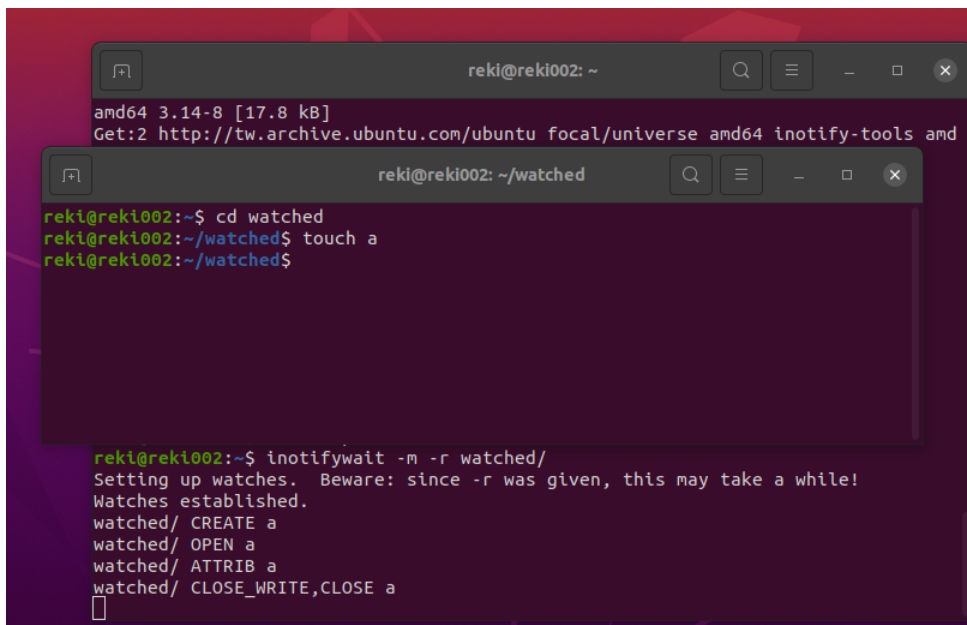
HW7

tags: SP

資工二 曹咏萱 409410082

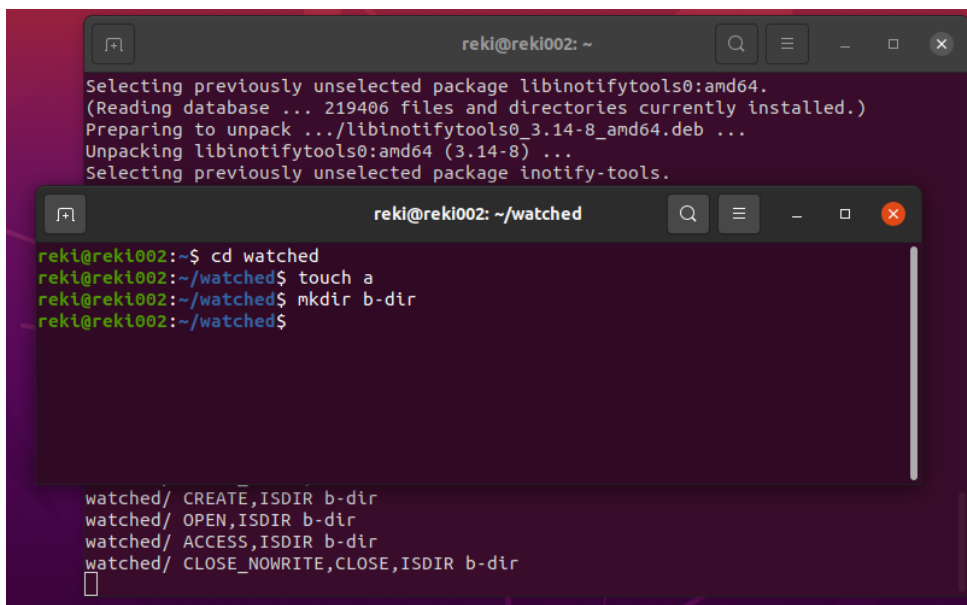
(1)

touch a



```
rek1@rek1002: ~  
amd64 3.14-8 [17.8 kB]  
Get:2 http://tw.archive.ubuntu.com/ubuntu focal/universe amd64 inotify-tools amd64 3.14-8 [17.8 kB]  
rek1@rek1002: ~/watched  
rek1@rek1002:~$ cd watched  
rek1@rek1002:~/watched$ touch a  
rek1@rek1002:~/watched$  
rek1@rek1002:~$ inotifywait -m -r watched/  
Setting up watches. Beware: since -r was given, this may take a while!  
Watches established.  
watched/ CREATE a  
watched/ OPEN a  
watched/ ATTRIB a  
watched/ CLOSE_WRITE,CLOSE a
```

mkdir b-dir



```
rek1@rek1002: ~  
Selecting previously unselected package libinotifytools0:amd64.  
(Reading database ... 219406 files and directories currently installed.)  
Preparing to unpack .../libinotifytools0_3.14-8_amd64.deb ...  
Unpacking libinotifytools0:amd64 (3.14-8) ...  
Selecting previously unselected package inotify-tools.  
rek1@rek1002: ~/watched  
rek1@rek1002:~$ cd watched  
rek1@rek1002:~/watched$ touch a  
rek1@rek1002:~/watched$ mkdir b-dir  
rek1@rek1002:~/watched$  
watched/ CREATE,ISDIR b-dir  
watched/ OPEN,ISDIR b-dir  
watched/ ACCESS,ISDIR b-dir  
watched/ CLOSE_NOWRITE,CLOSE,ISDIR b-dir
```

touch file_in_bdir

```
reki@reki002: ~  
Selecting previously unselected package inotify-tools.  
Preparing to unpack .../inotify-tools_3.14-8_amd64.deb ...  
Unpacking inotify-tools (3.14-8) ...  
Setting up libinotifytools0:amd64 (3.14-8) ...  
Setting up inotify-tools (3.14-8) ...  
  
reki@reki002: ~/watched/b-dir  
reki@reki002:~$ cd watched  
reki@reki002:~/watched$ touch a  
reki@reki002:~/watched$ mkdir b-dir  
reki@reki002:~/watched$ cd b-dir  
reki@reki002:~/watched/b-dir$ touch file_in_bdir  
reki@reki002:~/watched/b-dir$  
  
watched/b-dir/ CREATE file_in_bdir  
watched/b-dir/ OPEN file_in_bdir  
watched/b-dir/ ATTRIB file_in_bdir  
watched/b-dir/ CLOSE_WRITE,CLOSE file_in_bdir  
█
```

vim test.c

```
reki@reki002: ~  
reki@reki002: ~/watched/b-dir  
reki@reki002:~$ cd watch/b-dir  
bash: cd: watch/b-dir: No such file or directory  
reki@reki002:~$ ls  
Desktop  Downloads  Music      Public    sp         Videos  
Documents  Dropbox    Pictures  snap      Templates watched  
reki@reki002:~$ cd watched/b-dir  
reki@reki002:~/watched/b-dir$ vim test.c  
reki@reki002:~/watched/b-dir$  
  
watched/b-dir/ CREATE test.c  
watched/b-dir/ OPEN test.c  
watched/b-dir/ MODIFY test.c  
watched/b-dir/ CLOSE_WRITE,CLOSE test.c  
watched/b-dir/ CLOSE_WRITE,CLOSE .test.c.swp  
watched/b-dir/ DELETE .test.c.swp  
█
```

cat file_in_bdir

```
reki@reki002: ~  
reki@reki002: ~/watched/b-dir  
reki@reki002:~$ cd watched/b-dir  
reki@reki002:~/watched/b-dir$ cat file_in_bdir  
reki@reki002:~/watched/b-dir$  
  
watched/b-dir/ OPEN file_in_bdir  
watched/b-dir/ CLOSE_NOWRITE,CLOSE file_in_bdir  
█
```

echo hello >> file_in_bdir

```
reki@reki002: ~  
reki@reki002: ~/watched/b-dir  
reki@reki002:~$ cd watched/b-dir  
reki@reki002:~/watched/b-dir$ cat file_in_bdir  
reki@reki002:~/watched/b-dir$ echo hello >> file_in_bdir  
reki@reki002:~/watched/b-dir$  
  
watched/b-dir/ OPEN file_in_bdir  
watched/b-dir/ MODIFY file_in_bdir  
watched/b-dir/ CLOSE_WRITE,CLOSE file_in_bdir  
█
```

sudo inotifywait -m -r /

```
reki@reki002:~/watched/b-dir$ sudo inotifywait -m -r /  
[sudo] password for reki:  
Setting up watches. Beware: since -r was given, this may take a while!  
█
```

(2)WATCHFILE

執行結果

```
reki@reki002:~/sp/hw07$ vim file.txt  
reki@reki002:~/sp/hw07$  
abc  
reki@reki002:~/sp/hw07$ ./watchFile file.txt  
這次修改時間:Sat Apr 16 00:07:32 2022  
  
abc  
上次修改時間:Sat Apr 16 00:07:32 2022  
這次修改時間:Sat Apr 16 00:09:09 2022  
  
abcABC  
█
```

這次作業本來想要直接用老師在ch06裡面提供的watchFile.c來改寫，結果遇到了很多無解的問題

(1)parseInotifyEvent

```
1 int parseInotifyEvent(struct inotify_event *event){  
2     printf("@event = %p\n", event);  
3     if(event->mask & IN_MODIFY){  
4         printf("in_modify\n");  
5         return 1;  
6     }  
}
```

當我嘗試使用parseInotifyEvent的寫法時，if(event->mask & IN_MODIFY)永遠都不會成立，可是將所有event都印出來，它是有監聽到modify的，所以我不太理解為甚麼會有這個問題

(2)readFd=open(argv[1],O_RDONLY);

如果我的程式中有使用open打開檔案的話，它同樣也無法成功監聽事件

```
int wd=inotify_add_watch(fd,argv[1],IN_MODIFY);  
//readFd=open(argv[1],O_RDONLY);  
//getMTime(readFd,&cur_mtime);  
//strftime(timeStr,1000,"%F %T",&cur_mtime);
```

```
1 | readFd=open(argv[1],O_RDONLY);
```

將這行打開之後去修改file.txt，watchFile跑不出修改的事件

```
reki@reki002:~/sp/hw07$ vim file.txt  
reki@reki002:~/sp/hw07$   
  
^C  
reki@reki002:~/sp/hw07$ vim watchFile.c  
reki@reki002:~/sp/hw07$ make  
gcc -g -pthread watchFile.c -o watchFile  
reki@reki002:~/sp/hw07$ ./watchFile file.txt  
這次修改時間:Sat Apr 16 00:21:46 2022  
  
abcABC  
  
|
```