

File Permissions

```
ls -al /etc
```

Permissions	Link Count	Owner	Group	Size	Date	Time	Name
-rw-r--r--	1	root	root	44	Nov 21	16:55	adjtime
-rw-r--r--	1	root	root	1512	Jun 29	11:04	aliases
-rw-r-----	1	root	smmsp	12288	Nov 10	17:22	aliases.db
drwxr-xr-x	2	root	root	4096	Nov 10	17:26	alternatives
-rw-r--r--	1	root	root	541	Aug 13	10:12	anacrontab
-rw-r--r--	1	root	root	245	Oct 6	23:16	anthy-conf
-rw-r--r--	1	root	root	148	Sep 10	2008	asound.conf
-rw-----	1	root	root	1	Mar 15	2010	at.deny
drwxr-x---	3	root	root	4096	Nov 10	17:14	audisp
drwxr-x---	2	root	root	4096	Nov 10	17:14	audit
drwxr-xr-x	4	root	root	4096	Nov 10	17:20	avahi

1 2 3 4

[Fig. 3-2] files list of /etc directory

- ① Represents file permissions
- ② Indicates the number of files that are linked to the file
- ③ Account that created the file, but it is possible for file creator or administrator to modify
- ④ Group belonging to the account, but it is possible for file creator or administrator to modify

1. 파일에서의 권한
2. 해당 파일을 얼마나 링크하는지 (연결되어있는지)
3. 파일의 소유자
4. 파일 소유자의 그룹

- **File owner** permission
 - rwx are access permissions for file owner
- **Group** permission
 - r-x are access permissions for group
- **Others** permission
 - r-x are access permissions for others
- Each r, w, x of rwx means Read, Write, eXecution
 - r : 4(binary 100)
 - w : 2(binary 10)
 - x : 1(binary 1)

000-000-000

소유자-그룹-공유 권한

File Owner (파일 소유자) 의 권한은 r (read)- w (write) - x (execute) 읽고, 쓰고, 실행 가능 때때로 이 권한들이 숫자들로 표현 될 수 있음.

Example)

rwx is read **7** (binary 111). 7 is the sum of r(4), w(2), and x(1).

rw-rw-rwx is read **777**. It means that file owner, group, and others can read, write, and execute the file.

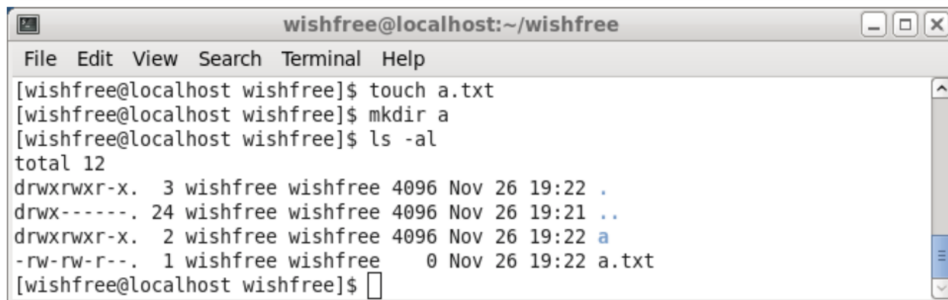
rw-r-x-r-x is read **755**.

이거 시험문제 나올 듯 ? ㅋㅋㅋ → 실습에서 해당 숫자 조작

파일을 만들 때마다 매번 권한을 설정해주는게 컴퓨터냐 ? 아니잖아 그래서 기본 설정이 존재한다.

- Create any file and directory. The file is **rw-r--r--**(644), and the directory is **rwxr-xr-x**(755).

```
touch a.txt
mkdir a
ls -al
```



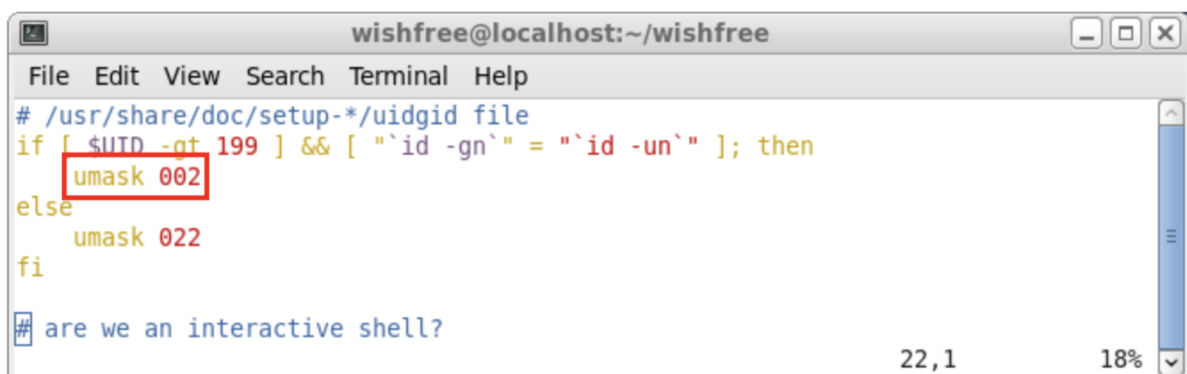
```
wishfree@localhost:~/wishfree
File Edit View Search Terminal Help
[wishfree@localhost wishfree]$ touch a.txt
[wishfree@localhost wishfree]$ mkdir a
[wishfree@localhost wishfree]$ ls -al
total 12
drwxrwxr-x. 3 wishfree wishfree 4096 Nov 26 19:22 .
drwx----- 24 wishfree wishfree 4096 Nov 26 19:21 ..
drwxrwxr-x. 2 wishfree wishfree 4096 Nov 26 19:22 a
-rw-rw-r--. 1 wishfree wishfree 0 Nov 26 19:22 a.txt
[wishfree@localhost wishfree]$
```

[Fig. 3-3] Verify the default permissions after creating any file and directory

- Determined by **umask** value. Umask is configured in **/etc/profile**. Configured by **.profile** file subdirectory of **/home**, **.bashrc** in case of bash shell, **.cshrc** in case of C shell for individual account
- All accounts in Fedora 14 follow umask value configured in **/etc/bashrc**
- You can see umask 022

파일은 644 , 폴더 (디렉토리)는 755

이 값은 umask 값에 의해 기본 값이 정해진다. /etc/profile 에 있는 umask 를 보면 값을 알 수 있는데 보통 022 이 이다. 따라서 파일의 경우 666-022 , 폴더는 777-22 를 통해서 파일 644 폴더 755 라는 기본값이 만들어 진다.

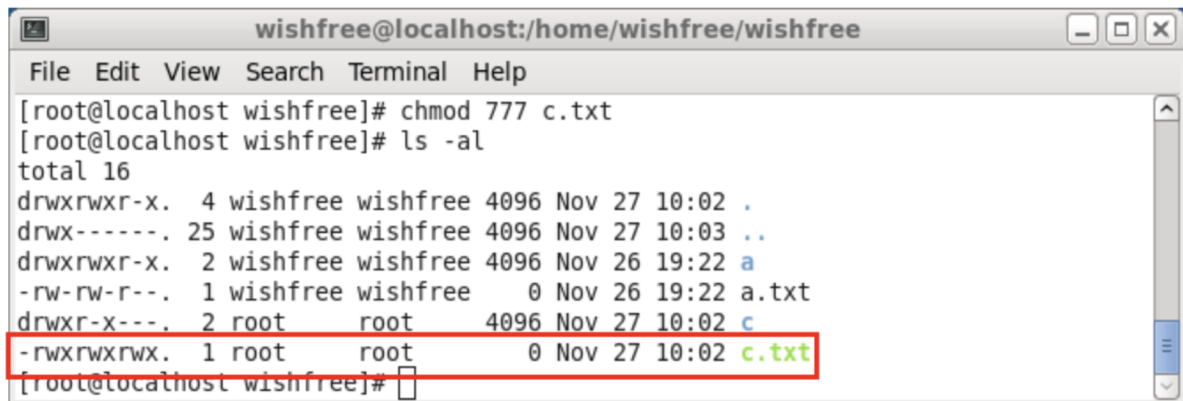


```
wishfree@localhost:~/wishfree
File Edit View Search Terminal Help
# /usr/share/doc/setup-*/uidgid file
if [ $UID -gt 199 ] && [ "`id -gn`" = "`id -un`" ]; then
    umask 002
else
    umask 022
fi
# are we an interactive shell?
22,1 18%
```

[Fig. 3-4] Identify the umask in /etc/bashrc

위와 관련해서 공유설정값을 변경할 수도 있고,

chmod 777 c.txt

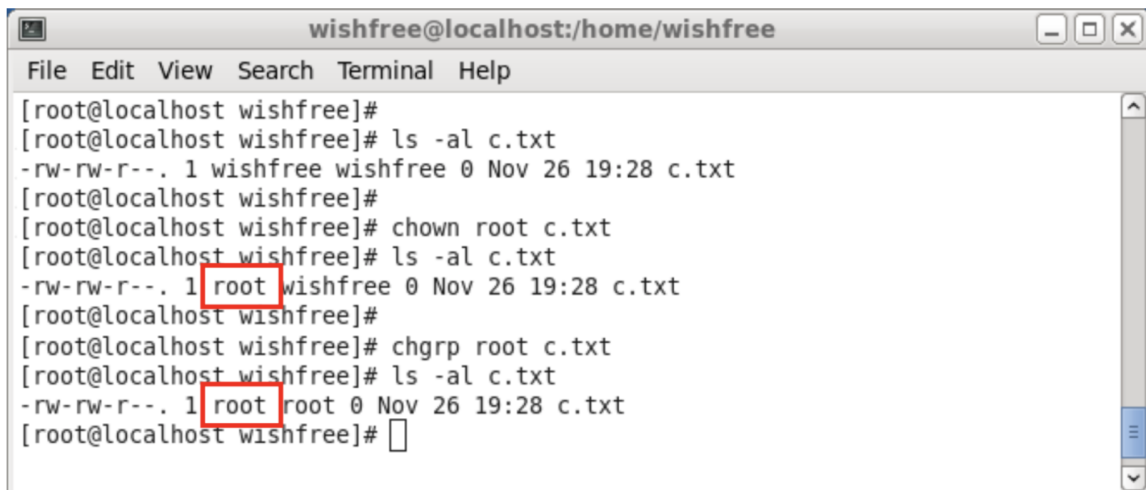


```
wishfree@localhost:/home/wishfree/wishfree
File Edit View Search Terminal Help
[root@localhost wishfree]# chmod 777 c.txt
[root@localhost wishfree]# ls -al
total 16
drwxrwxr-x. 4 wishfree wishfree 4096 Nov 27 10:02 .
drwx----- 25 wishfree wishfree 4096 Nov 27 10:03 ..
drwxrwxr-x. 2 wishfree wishfree 4096 Nov 26 19:22 a
-rw-rw-r--. 1 wishfree wishfree 0 Nov 26 19:22 a.txt
drwxr-x---. 2 root root 4096 Nov 27 10:02 c
-rwxrwxrwx. 1 root root 0 Nov 27 10:02 c.txt
[root@localhost wishfree]#
```

[Fig. 3-8] Changing file default permission

소유자이름을 변경할 수도 있다.

chown wishfree c.txt chgrp wishfree c.txt



```
wishfree@localhost:/home/wishfree
File Edit View Search Terminal Help
[root@localhost wishfree]#
[root@localhost wishfree]# ls -al c.txt
-rw-rw-r--. 1 wishfree wishfree 0 Nov 26 19:28 c.txt
[root@localhost wishfree]#
[root@localhost wishfree]# chown root c.txt
[root@localhost wishfree]# ls -al c.txt
-rw-rw-r--. 1 root wishfree 0 Nov 26 19:28 c.txt
[root@localhost wishfree]#
[root@localhost wishfree]# chgrp root c.txt
[root@localhost wishfree]# ls -al c.txt
-rw-rw-r--. 1 root root 0 Nov 26 19:28 c.txt
[root@localhost wishfree]#
```

[Fig. 3-9] Changing owner and group of a file