

About permissions --> First of all, think about:

- * who: user
- * what happens (action): can/can not
- * with regard to what: file/dir
- * why (explanation, cause): permission

Example 1:

a) Question: Can user dacomo read the contents of file test.sh?

b) Checking

```
dacomo@infl-dacomo:/usr/bin$ ls -ls test.sh
20 -rwxr-x--x 1 root root 17654 feb 5 13:25 test.sh
```

```
dacomo@infl-dacomo:/usr/bin$ id
uid=1000(dacomo) gid=1000(dacomo) grups=1000(dacomo),100(users),125(vboxusers)
```

```
dacomo@infl-dacomo:/usr/bin$ cat test.sh
cat: test.sh: Permission denied
```

c) Analysing

- Who is the user trying to read the contents of test.sh?--> dacomo
- What is dacomo trying to do? --> Read the contents of test.sh
- Is dacomo the owner of test.sh? --> No
- Is dacomo member of the group with special permissions on test.sh? --> No
- Is dacomo member of other? --> Yes
- What are dacomo's permissions on test.sh as a member of other?--> Execution
- What is the permission required to read the contents of test.sh? --> Reading
- Is the reading permission set for dacomo on test.sh? --> No
- Can dacomo read the contents of test.sh? → No

d) Answering the question

1.- Parts of the final sentence:

dacomo (user - who)

can not read the contents of (action - what happens)

test.sh (file/dir - what)

because, as a member of other, the reading permission is not assigned to dacomo on test.sh (why -> permission).

2.- Final sentence:

dacomo can not read the contents of test.sh because the reading permission is not assigned to dacomo on test.sh.

Example 2:

a) Questions:

- Can user dacomio gain access to directory /home/dacomio/exam?
- Can user dacomio list the contents of /home/dacomio/exam?

b) Checking

```
dacomio@infl-dacomio:~$ ls -lsd /home/dacomio/exam
4 --wxr--r-- 2 dacomio dacomio 4096 mar 8 11:48 exam
dacomio@infl-dacomio:~$ id
uid=1000(dacomio) gid=1000(dacomio) groups=1000(dacomio),100(users),125(vboxusers)

dacomio@infl-dacomio:~$ cd /home/dacomio/exam
dacomio@infl-dacomio:~/exam$ ls -ls
ls: cannot open directory '.': Permission denied
```

c) Analyse

- Who is the user trying to gain access to /home/dacomio/exam? --> dacomio
- What is dacomio trying to do?:
 - > Gain access to /home/dacomio/exam
 - > List content of /home/dacomio/exam
- Is dacomio the owner of /home/dacomio/exam? --> Yes
- What are dacomio's permissions on /home/dacomio/exam as owner? --> Writing Execution
- What is the permission required to:
 - > Gain access to /home/dacomio/exam? --> Execution
 - > List contents of /home/dacomio/exam? --> Reading
- Is the:
 - > Execution permission set for dacomio on /home/dacomio/exam? --> Yes
 - > Reading permission set for dacomio on /home/dacomio/exam? --> No
- Can dacomio:
 - > Gain access to /home/dacomio/exam? → Yes
 - > List the contents of /home/dacomio/exam? → No

d) Answer

1.- Part of the final sentence:

dacomio (user - who)

can gain access to (action - what happens)

can not list the contents of (action - what happens)

/home/dacomio/exam (file/dir - what)

because, as owner, the execution permission is assigned to dacomio on /home/dacomio/exam but reading permission is not assigned on /home/dacomio/exam to dacomio (why -> permission).

If dacomio could list the contents of /home/dacomio/exam then, you should change but to and

but

2.- Final sentence:

dacomio can gain access to /home/dacomio/exam because, as owner, the execution permission is assigned to dacomio on /home/dacomio/exam but can not list the contents of /home/dacomio/exam because, as owner, the reading permission is not assigned to dacomio on /home/dacomio/exam.